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Edward Leyman, Sarah Thomas, and Gudrun Huden

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TISA PROJECT REPORT NO. 28

A STUDY OF LIBRARY USER'S NEEDS IN THE SAVANNAH DISTRICT, CORPS OF ENGINEERS

PREPARED BY
HERNER AND COMPANY
WASHINGTON, D. C.
JULY 1969

U. S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

ABSTRACT

Results of a combined personal interview and mail questionnaire survey of scientists, engineers, and other professional employees of the Savannah District, Corps of Engineers, defined the nature and extent of these employees' needs for scientific and technical information and established their requirements for particular informational services. Recommendations are made for a specialized District technical library to provide the required informational services. The study was performed in connection with a U. S. Army Technical Information Support Activities (TISA) project for the establishment of a model technical library in the Savannah District.

FOREWORD

Studies of users' needs for scientific and technical information and for different kinds of informational programs and services to satisfy these needs have succeeded many times in providing fundamental guidelines and criteria for establishing specialized technical information centers and libraries and for improving the operations and services of existing facilities. For a variety of reasons, however, such studies have all too frequently failed to have impact on plans and programs and have wound up merely occupying shelf space. On occasion, the results of such studies have even wound up as tools for reinforcing a far-from-perfect status quo. These thoughts have had a major influence on the preparation of this report and, in particular, on the arrangement of the information presented: in general, the first two Sections are intended to provide an understanding of the context and aims of the survey and the degree of confidence which can be placed in the survey results; thereafter, in succeeding Sections, the information is presented in ever increasing detail so that readers, at whatever levels, may read as far as their needs and concerns lead them.

With regard to the survey approach and methodology, the critical reader will early recognize that the multiple aims of the project were sometimes in conflict, a situation somewhat compounded by needs to keep project costs within reasonable bounds. Compromises had to be sought, which affected mainly the area of sample design and the designs of the survey instruments. These compromises, however, did not obstruct the achievement of the important goals of the study.

The degree of success achieved is largely attributable to the District employees who were themselves the targets of the study; their significant contribution of time and effort during the survey and the openness of their responses to survey questions are recognized with the gratitude of the study team. Specific individuals in the Savannah District must also be recognized for their contributions to the study, in particular, Major Larry F. Smalley, Deputy District Engineer, whose keen management insights and awareness of the need for the study as a basis for sound planning of the District Library brought continuing, enthusiastic support for the project. Additionally, special thanks go to Mr. Walter Schaaf, whose extraordinary energy and comprehension of the requirements of the study

team invariably smoothed out the course of the survey; Mr. William Crump, whose administrative support and concern for the program made signal contributions; and Mrs. Marguerite West, the new Librarian, whose help in coordinating the mechanics of the survey was given generously.

TABLE OF CONTENTS

A STUDY OF LIBRARY USERS' NEEDS

IN THE

SAVANNAH DISTRICT, CORPS OF ENGINEERS

SECTION I: INTRODUCTION

This report contains the findings and recommendations resulting from a study of library users' information needs in the Savannah District, Corps of Engineers, Department of the Army. The study itself was planned by the Savannah District as a principal element in an Army Technical Information Support Activity (TISA) Project. In the Project's Charter, the following purposes are stated:

"a. To develop, test, and evaluate a modern, highly effective technical information facility that may be related to Army-wide use.

b. To evaluate relevant techniques and concepts of modern information technology."

In keeping with the above-quoted two-fold basic purposes of this TISA Project, this study of library users' needs had several major aims:

a. To define and describe the information user population of the Savannah District; describe their informational requirements; and set forth recommended ways and means whereby these requirements can be satisfied through technical library operations, programs, and services.

b. To prepare profiles of the subject interests of information users in the Savannah District for use by the technical library.

c. To develop questionnaires which organizations similar to the Savannah District can utilize for gathering data to describe their own user populations, determine their informational requirements, and prepare profiles of users' subject interests.

d. To gather data about the information user population in the Savannah District which can be compared with similar data gathered in a previous survey of the DOD-wide RDT & E community.

The study was performed for the Savannah District by Herner and Company during the first six months of 1969. Essentially, the study addressed itself to the 361 professional employees of the District's total of 925 employees. The data for the study were gathered from these professional employees during a two-month period starting in the last half of March and concluding in the first half of May, 1969. For the data gathering, a combination of survey techniques and instruments was used: face-to-face interviews were conducted with 155 of the 361 professional employees using a structured interview guide; mail questionnaires, which included the most important topics of inquiry covered in the face-to-face interview guides, were disseminated to the remaining 206 professional employees, of whom 138 (67%) returned usable questionnaires. Thus, through the face-to-face interviews and the mail questionnaires together, data were gathered from 293 (81%) of the total 361 professional employees. By other techniques, using distributed questionnaires, information for the preparation of interest profiles was gathered from 293 (81%) of the total 361 professional employees.

SECTION II: SUMMARY OF SURVEY APPROACH AND METHODOLOGY

The Survey Universe

As pointed out in the introduction to this report, the Savannah District employs some 925 persons and, during the survey, this number included 361 professional employees in a great range of different employment categories. The universe of 361 professional employees was further broken down into two major groups: scientists and engineers (206 individuals) and all other professional employees (155 individuals). The distinction between scientists and engineers and all other professional employees was important because of a contractual requirement to gather data from the scientists and engineers which could be compared to similar data previously collected in a survey of scientists and engineers in the DOD-wide RDT & E community. In keeping with the broad definition of scientific and engineering professions used in the previous DOD-wide survey, the population of "scientists and engineers" in the Savannah District is shown in the following breakdown:

Category	No. of Employees
Engineers (civil, mechanical, electrical, general, safety, and value engineers)	157
Architects	13
Landscape Architects	2
Geologists	6
Biologists	1
Foresters	9
Emergency Operations Planners	1
Reservoir Management Specialists	1
Management Analysts	4
Computer Programmers	2
Economists	2
Personnel Specialists (management, staffing, position class, and employee development specialists)	6
Librarians	2
TOTAL	206

A breakdown of the 155 individuals identified as "other professional employees" follows:

Category	No. of Employees
Administrative positions	4
Finance, Accounting, and Budgeting positions	11
Procurement Specialists	3
Construction Representatives and Inspectors	88
Realty Specialists and Appraisers	31
Attornies	5
Power Project Superintendents and Reservoir Managers	8
Supply Specialists	3
Transportation Specialists	2
TOTAL	155

In deciding upon the approach and methodology for the conduct of the survey, it was considered desirable to conduct face-to-face interviews, using structured interview guides, with all of the 361 professional employees of the District. However, it was also necessary to keep the costs of the survey within reasonable bounds; therefore, plans were devised to conduct interviews with a sample of the scientists and engineers and also with a sample of the other professional employees. All other professional employees, those not selected for interviewing, were to receive mail questionnaires. The sampling plans for the interviewees are described below.

Sampling Plan for Scientists and Engineers

With regard to the scientists and engineers, it was determined that 124 interviews would be desirable - a 60% sample of interviewees selected randomly from the total group of 206 scientists and engineers, with the remaining 40% to receive mail questionnaires. Since the population of 206 was finite and less than 1,000, this size probability sample would not only produce highly dependable results (a plus or minus 2.5% reliability interval at the .95 confidence level), but also would produce data with which valid comparisons might be made to data obtained during the previous survey of the DOD-wide RDT & E community.

Sampling Plan for Other Professional Employees

To a certain extent in this study, special emphasis was placed on the 206 scientists and engineers of the Savannah District and their needs for scientific and technical information. Because of this special emphasis on scientific and technical information and because of the need to conduct the study as economically as possible, it was decided to forego a probability sample and select a smaller, so-called judgement sample of other professional employees for interviewing, with the remainder to receive mail questionnaires. Therefore, with the expert advice of members of the Savannah District staff, 26 individuals who were judged most likely to be able to represent the informational requirements of the other professional employees of the District were selected. The remaining 129 received mail questionnaires.

The disadvantage of this technique is that there is no known objective method of measuring the level of confidence to be placed in the survey results obtained; without information on the manner in which different samples might differ from one another, the sampling error cannot be determined objectively. However, the interviews with these 26 other professional employees brought out results and patterns of responses which were essentially paralleled and reinforced by patterns of responses from the mail questionnaire addressees. This leads to the strong belief that a high level of confidence can be placed in the overall results of the survey of the other professional employees and that, for the important planning purposes of this study, the survey results are indeed very satisfactory.

The Survey Instruments

As previously indicated in this report, three basic kinds of survey instruments were employed: the face-to-face interview guides or schedules, the mail questionnaires, and the subject interest profiling questionnaires. Each of the instruments was put through several cycles of rigorous pretesting with respondents in the District, prior to actual use.

The survey instruments are discussed further in Section IX of this report; however, it is important to mention some of the major aspects of each at this point. First, with regard to the interview schedule, as has been indicated previously, one of the contract requirements was to make use of the interview schedule used in the

previous survey of the DOD-wide RDT & E community to obtain data which could be compared with the findings of the previous survey. Very early in the development of the interview schedule for the present survey, it was discovered that some of the questions from the previous interview schedule were inapplicable, confusing to, or otherwise unworkable among interviewees in the Savannah District environment. These questions were dropped from the schedule. Ultimately, 36 questions were extracted from the earlier interview schedule and imbedded in appropriate places among the total 98 questions asked of interviewees.

The mail questionnaire was much briefer than the interview guide; even so, it consisted of 42 questions, many of which were open-ended, calling for free response on the part of the respondent. In an effort to keep the mail questionnaire from being still longer, the topics covered were limited to those considered very necessary for the purposes of the study. Each topic covered in the mail questionnaire had its directly parallel counterpart in the interview guide and, in most cases, the wording of questions was essentially the same for both instruments.

The subject interest profiling approach involved two major steps. First, all respondents were requested to review a copy of the COSATI list of Subject Category Fields and Groups (as modified and presented in Thesaurus of Engineering and Scientific Terms) and to check off each heading representing subject matter of interest to them in connection with their work. Each interviewee was given a copy of this list to review, check, and hand back at the conclusion of the interview. For each mail questionnaire addressee, a copy of this list was simply appended to the mail questionnaire addressed to him and the respondent returned the checked off list with his completed questionnaire.

The second major step in the profiling procedure involved the distribution, to all interviewees and all mail questionnaire respondents, of a detailed profiling questionnaire consisting of two basic parts. The first part contained two questions asked uniformly of all addressees pertaining to their specific reading matter. The second part of the questionnaire was assembled and appended to the questionnaire for each addressee, on an individual basis; this appended part consisted of lists of detailed subject headings, one detailed list for each broad heading the addressee had checked off previously on the COSATI list of Subject Category Fields and Groups. (The detailed lists were extracted from the same source, Thesaurus

of Engineering and Scientific Terms.) By reviewing and checking off appropriate subject headings on the detailed listings, the addressee was expected to provide more specific information needed for refinement of profiles.

Survey Response

As stated previously, interviews with 124 (60%) of the 206 scientists and engineers were desired; ultimately successful interviews were conducted with 129 (63%) of the them. Mail questionnaires were distributed to the remaining 77 individuals, of whom 51 responded with usable questionnaires. All told, through the interviews and the mail questionnaires, data were collected from 180 (87%) of the total 206 scientists and engineers.

Interviews were conducted with the judgment sample of 26 other professional employees; mail questionnaires were distributed to the remaining 129 individuals, of whom 87 (67%) responded with usable questionnaires. Thus, data were collected from a total of 113 (73%) of the 155 other professional employees.

Overall, 293 (81%) of the total 361 professional employees of the District contributed time and effort as well as the highly important data needed for this study. In Section V of this report, the reader will find a discussion of the survey results, where the data obtained from all 293 professional employees are correlated and synthesized. For the reader who is interested or needs to have more detailed information on the survey results, individuals' responses to specific questions in the interview schedule and mail questionnaire are given in extensive tabulations in Section VI (Interview Survey Results) and Section VII (Mail Questionnaire Survey Results). The results of the profiling work are reported in Section VIII.

TISA Report No. 28

SECTION III: GENERAL FINDINGS AND CONCLUSIONS

The Savannah District employees, at least those in the Savannah offices, have for a long time enjoyed certain general library or library-like services, mainly for ordering of specifically-requested materials and for routing of periodicals. However, over the years, the existence of the District Library has itself been vicissitudinous with regard to the kinds, quantities, and qualities of the materials in its collection, the kinds of services it could render, the kinds and levels of employees assigned to it, its position in the District's organizational structure, and, indeed, whether or not it was officially nominated "a library" or a part of mail and records operations.

Now, under the Army's TISA program, the decision has been made to develop, formally and systematically, a "modern, highly effective technical information facility" which will serve the informational needs of the Savannah District employees; a new facility with new equipment has been set up; and professional librarians have been added to the staff. In view of this action, numerous questions arise: "What are the different kinds of informational needs of the employees?" "What kind of 'information facility' is needed to satisfy these needs?" What products and services should it provide?" and many other related questions. Indeed, it may be asked, "Do the Savannah District employees need a library at all?" since for so many years they have gotten along without one or have had only minimal on-again, off-again services.

The professional employees of the Savannah District, through their responses to questions posed in the present survey, have provided conclusive evidence that a library is needed. This evidence, presented below, constitutes some of the most significant findings of this study. By the same token, the employees have provided a great deal of valuable guidance regarding the kind of library needed and the kinds of services it should provide to fulfill their requirements; these more specific findings are treated in the next section of this report, Section IV: Recommendations for the Savannah District Library.

With regard to the question, "Do the employees need a library at all?" the Special Libraries Association describes (Special Libraries: A Guide for Management) 12 or more problems which exist in organizations and which can be solved or alleviated by effective

library operations. These are the kinds of problems that have moved organizations to set up special libraries in the past, when one or more of the problems has been detected. The present study has shown that all of these situations and several more exist, to one degree or another, in the Savannah District. In the study findings given below, the Association's list of problem areas has been used as a kind of checklist for describing the significant situations found to exist in the Savannah District.

a. Excepting periodicals, the Library's collection has deteriorated and become stagnant in every way while, over the years, funds have gone into the building of employees' personal collections and various organizational units' collections. 75% of the scientists and engineers and as high as 50% of the other professional employees maintain files or collections of scientific, technical, and other publications which they use in connection with their work. Beyond this, 85% of the employees report that their own organizational units also maintain such files or collections which they use. Moreover, there is significant traffic among units: 40% of the scientists and engineers and as many as 20% of the other professional employees report using files and collections of scientific and technical publications maintained by organizational units other than their own. Properly centralized, circulated, and controlled, these materials should serve the needs of all employees better and more efficiently; very likely, fewer materials would have to be purchased in multiple copies.

b. Some of these personal collections and other decentralized collections are a reasonably small number of texts, manuals, handbooks, manufacturers' catalogs, and the like, kept handy for frequent use. But others are considerably larger collections - large enough, in some cases, so that employees are spending time and effort in getting the materials organized and keeping them organized to facilitate use by themselves and others.

c. The building up of extensive personal and other decentralized collections has contributed both directly and indirectly to some of the problems voiced by employees related to the unavailability and inaccessibility of publications: materials are cataloged in the Library but

are scattered throughout the decentralized collections and can't be located, are hard to locate, or are not where they are supposed to be; despite extensive accumulations of publications, specific ones can sometimes never be found to answer specific needs; when located in the Library or elsewhere, publications may be found to be poor in quality or outdated; important publications that should have been purchased have been missed; widely needed publications have been purchased in only one copy and the waiting line is long.

d. Some employees are having to purchase their own publications and subscriptions in an effort to obtain what they need. The extent of this situation was not measured in the present study.

e. Numerous employees specifically reported trouble in locating sources of information and lack of knowledge of what sources are available as major problems to them. Indications are that at least 50% of the employees make use of the sources they do use simply because they are the only sources known or because the sources happen to be those most handy, available, and easy to use. Furthermore, it is apparent that in about 40% of the recent occasions, when employees have tried to get information needed for a specific task, they have only been able to get part of the information they really needed, have received irrelevant or out-of-date information, or have had no success whatsoever.

f. Employees reported a number of specific occasions when they needed information for a specific task at hand, but had to move ahead and make decisions, with only part of the information they needed or without ever having found any of the information they needed.

g. Some of the employees in the outlying offices (outside Savannah) in Georgia, North Carolina, and South Carolina are making use of numerous university, public, and other libraries and a few specialized information centers to augment services available through the District; they would like to find out what services the District Library could perform for them and have indicated specific services they would consider useful to them, in connection with their work, if rendered.

h. Some of the employees in Savannah are similarly making use of a number of university, public, and other libraries and several specialized information centers; they also have indicated specific useful services that the District Library could perform for them.

i. By and large, the employees have little or no knowledge of specialized information and information analysis centers that exist, Federally-supported or otherwise.

j. There are indications that the newer employees are disappointed with the information services available to them. Some of the indications given: they have been accustomed to large university libraries or they have previously been located in cities with major research libraries; the city of Savannah and the colleges there have limited facilities; they have trouble keeping abreast in their fields in Savannah; current issues of periodicals are hard to get hold of or are very slow coming to them because of routing procedures.

k. Problems in keeping abreast of recent research results and new developments, products, and techniques in their fields were reported by about half of the employees; major reasons related to the quantities of material which they received, existing policies and procedures for routing current issues of periodicals (the District receives over 350 periodicals, several in multiple subscriptions of up to 23 subscriptions); and remoteness from library and library services. In this connection, it is worth noting that about 50% of the employees regard periodicals as their <u>best means</u> of keeping abreast in their fields, whereas 16% regard manufacturers' and suppliers' literature and contacts with sales representatives as their <u>best means</u>, and still another 13% become notified through new or changes to existing specifications and regulations; 16% have a variety of other means and 5% have no means or believe new developments - keeping abreast of them - are inapplicable to their work. The report literature - the semi-published literature - was mentioned not at all either as a <u>best means</u> or as <u>any</u> means.

l. Roughly one-quarter of the professional employees indicated that they felt no need or were not interested in research

and experimental work just starting up or in some stage of progress in government laboratories, universities, research institutions, and elsewhere. In fact, based on responses from the remaining three-quarters, interest in this kind of information is not widespread in the Savannah District. For example, among the scientists and engineers, fully 50% consider the journal literature, and whatever happens to be announced therein, as their best means of becoming aware of such work in progress. Only a very small handful mentioned any of the specialized sources available. 11% rely on contacts with colleagues in their fields, 9% rely on manufacturers' and suppliers' sources, and the remainder rely on attendance at meetings and miscellaneous methods.

m. Standards, specifications, and regulations present major informational problems for the employees. For example, different kinds of engineering regulations: finding out if a specific one needed is held in the District at all; if not, how to get it rapidly; if held, where is it supposed to be located (in the Library? in one of the sections?); where is it really located? is it available or does someone else have it out for use? etc.

The foregoing situations in the Savannah District represent some of the major findings of this survey and study. Probably few if any of the problems are unique to the District; quite likely they are prevalent in many other similar organizations. But these situations have led to the conclusion that a District Library is emphatically needed and would quite obviously help to solve problems and improve situations that exist there. By the same token, these findings show equally well that a "library" in name only, even a library organized and operated along the more traditional lines of, say, a small public library, would have insignificant impact on existing situations. What is needed is a special technical library - a "modern, highly effective technical information facility," if you will.

Such a facility - a special technical library - is described and recommended for the District in the next Section of this report. Also included are recommendations pertaining to its functions and goals, its position in the organizational structure, its staff, the materials it should acquire and maintain in its collection, and the specific reference and information services it should offer for

District employees. In the specific reference and information services recommended, the focus is on the Library's role in keeping District employees informed of job-related information and information sources that are available for use in their work; in making such information and information sources more readily available and more easily accessible to them when needed for planning, for decision making, and other purposes; and in helping the employees to keep abreast of new developments and research going on that is important to the District's mission. However, through these and other kinds of recommended services, the Library will also play an ever-increasing role in the continuing education and the professional and academic advancement of individual employees. In turn, as these employees make the most of the Library's services and as they continue to live in and interact with the community of Savannah and many other communities in the Southeast, the District itself will have established additional means for being instrumental in the stimulation, progress, and growth of these communities.

It is believed that this consequential role of the Library should also be kept in mind when considering the merits of the recommendations set forth in the following Section of this report.

SECTION IV: RECOMMENDATIONS FOR THE SAVANNAH DISTRICT LIBRARY

The recommendations developed in this Section of the report stem directly from the results of the user survey. Observations made and knowledge gained through many visits and discussions in the Savannah District, before, during, and after the survey, have also contributed significantly. Additionally, the previous experience of Herner and Company, as well as that of many others reported in the published literature, have been used gainfully, as the reader will recognize in the following discussions.

A. General Concepts of Functions and Goals for the Savannah District Library

As this study has so forcefully demonstrated, what is needed in the Savannah District is a "modern, highly effective technical information facility" -- a special technical library, with the following recommended functions and objectives:

a. Becoming, in systematic stages, the major source of information for the District.

b. Acquiring, selectively, informational materials pertinent to the District's mission and its current and future work activities.

c. Organizing and maintaining informational materials in all forms required by the District's employees.

d. Utilizing and disseminating information and informational materials, bringing these to the attention of users before they are requested or in direct response to requests.

e. Serving all employees in the District who have need of the Library's services.

f. Modifying and improving Library operations and services through continuing evaluation of its performance, through continuing awareness of changes in the District's work activities, and through exploitation of advances in information technology.

The above outline of recommended overall functions and objectives implies that the Library must have a highly effective staff, an adequate physical plant and facilities, a collection extensive and intensive enough to meet current and expected users' requirements, and very dynamic and aggressive service policies. These implications are taken into account in the detailed recommendations made subsequently in this Section with regard to specific operations, policies, and other aspects and features for the Savannah District Library. However, it is recognized that the Library must still operate within certain budgetary, staff, and other ceilings which will constrain its functions. To help overcome this, it is evident that another outstanding feature of the Library must be its ability to capitalize on all manner of other available services and resources outside the Library to supplement and augment its own capabilities to serve users. Beyond its own core collection of up-to-date information, strong reliance must be placed on outside sources, including other libraries, information centers, publishing and dissemination activities and services, as well as personnel and agencies involved in work related to that carried out in the District. Thus, the Library must be an active collector of information about information sources - a referral or switching center for District users, in the current concepts of such activities. As an "agent" for users, the Library becomes an active provider and a transfer link for the flow of information to the District, as well as a link between users and other sources of information within the District itself. This theme is emphasized in several of the following detailed recommendations.

B. Position of the Library in the Organizational Structure

It is recommended that the District revise the status of the Library in the organizational structure of the District and establish it as an independent element on the District Engineer's Staff. In support of this recommendation, the following discussion is offered.

Organizations that have determined the need for a library often find it difficult to identify the best location for it within the organizational structure. Library literature has done very little to assist in this problem and reflects as many variations of opinion as would be found in the various organizations having libraries.

Strong arguments exist that the library should be a part of a research or a planning division, since in many organizations these are the units making the heaviest use of the collection. Others

argue just as strongly that the library should be part of the administrative unit to insure that its services are available to all units. The strongest argument against location within the administrative unit is that it de-emphasizes the role of the library as a team member in operational projects and planning and identifies the library with facility, supply, and other support services.

Many organizations feel that the library should have a position directly under the head of the organization to provide the assurance that services are available to all units of the organization and to provide recognition of the importance of the information function to the organization. This position often has an added advantage in getting sufficient funding for library operations, a problem often encountered when located in a specific unit at a lower level.

The scope of the library, its functions and staff, and communications between the library and its clientele are important considerations in determining the location of the library, to whom it will report, and how it is to be evaluated. When a library serves a number of other locations, as in the Savannah District, the decision of location within the organization is an even more important one. The location must ensure that the library is an integral part of the communications network, by which it can gain information on present activities and problems and future plans, and that the library staff will encounter as few obstacles as possible in its efforts to keep informed.

C. Information Division Concept.

In its planning for the future, it is recommended that the District give consideration to the feasibility of establishing an information division, wherein the Library and other information-handling and information-related activities in the District would be consolidated into a single organizational element which might operate more effectively in support of the District's mission.

There has been a trend in the last few years for organizations to review their library and information systems to determine if change in character of these systems is needed or if a consolidation of all the information activities would provide more effective service to all personnel. Such studies have in many instances led to the formation of technical information divisions including the library, separate collections such as computer tapes, specifications, maps

and standards, internal publications and distribution; and technical editing and writing groups. In consolidations such as these, the individual units support each other with the library especially active in supporting the work of the other units, asting as the "retailer" of information. The flow of information through an organization is much freer in such situations and aids in more effective decision-making for the entire organization.

Even in instances where the activities mentioned above have not been consolidated, separate information centers often encompass a library or are closely supported by one. In some few instances, the library encompasses the information center activity, though in effect, the center still operates separately. In any event, there is evidence that the library and information center are becoming more alike in functions, qualifications of staff and services provided. For example, in 1964, L. J. Strauss and others, in their book entitled Scientific and Technical Libraries, include maintaining special subject reference files and indexes, filing and indexing reports and correspondence, editorial assistance, translating, and other personalized services as functions of the scientific and technical library in addition to the standard ones normally carried out by all special libraries. Many of these same functions are carried out by other information activities such as the ones discussed earlier and are thus duplicating some functions through an organization. Attention is also invited to TISA Project Report No. 23, The Role of the Library in Relation to Other Information Activities (August 1968).

D. The Library Staff

If there is but one sine qua non for the Library, it is unequivocally the Library staff. The quality of the staff is the pivotal factor in the success or failure of all plans for the Library, and, recognizably, the size of the staff will affect mightily the degree to which objectives in Library services can be realized.

First, it is recommended that there be appointed a full-time director for the TISA Model Technical Library Project in the Savannah District, who will oversee, monitor, and coordinate all of the interrelated investigative activities and studies planned and in progress, who will free up the operating Library staff for systematic implementations of the results of these studies, and who will advise and assist the operating staff in doing so. Otherwise, it is

believed that the operating staff will become overloaded, that the Project will lose its present impetus, and that the investigative efforts will become exercises with few of the results and plans being implemented.

Second, it is recommended that the District increase the size of the Library staff to an eventual total of seven members, when the Library is in full operation. A ratio of three professional to four non-professional personnel is recommended. Since the size and quality of the Library staff are so important to the success of the Library's operations, the characteristics and qualifications, the size and composition, and salaries of the staff are discussed at some length below in furtherance of this recommendation.

Size of Staff: The Special Libraries Association and many other groups and individuals have studied the sizes of library staffs in relation to users, to collections, and the like. The majority of these studies are aimed at the staff relationship to user population as a more valid measure and, in general, show an average of one library staff member to each fifty users. The internal ratio shows one professional for every two non-professionals, though in recent years this has changed somewhat, to two professionals for every three non-professionals.

In thinking of the staff that will eventually be needed when the District Library is fully operational, it is believed that the relationship of staff size to the population of users to be served provides a far better basis for planning than any other single basis that might be utilized. Two major factors have influenced this thinking: (1) the dynamic nature of the Library, which is to be very highly service-oriented, providing a wide range of valuable reference and other services for users; and (2) the Library will not only be providing these services to users in Savannah proper, but also to users situated in about 20 outlying communities in North and South Carolina, Georgia, and Alabama.

The potential users of the Library number well over 900, considering both the professional and the non-professional employees. Not all will be active users, of course. But, using the total number of 361 professional employees as the basis, this alone indicates a staff of seven will be required, if one divides 361 by the average, mentioned earlier, of 50 users for each Library staff member.

As a matter of interest, a review of the recent Survey of Special Libraries Serving the Federal Government shows that 63 engineering, scientific and technical, and medical and hospital libraries have book or periodical collections approximating the Savannah District Library's collections (over 350 periodical titles at present and a projected book collection of 10,000 volumes). Nine of the 63 are engineering libraries, whose staffs and collections are discussed below:

(a) Only three of the nine engineering libraries had a periodical collection of between 300 and 400 titles. The one with the largest staff had two professional and two non-professional employees and collections of 12,243 books, 329 periodical titles, plus 21,368 reports.

(b) Two of the libraries had 200-250 periodical titles and 10,000 books; the one with the largest staff had one professional and two non-professional employees, but also had a collection of 80,350 reports.

(c) Three of the libraries had book collections between 11,000 and 12,200, but only one had a periodical collection of over 300 titles. The largest staff size was three professional and five non-professional employees.

(d) Three of the libraries had book collections between 8,220 and 9,400; two of these had periodical collections of less than 100 titles; one had over 300 titles. The largest staff was three professional and four non-professional employees.

The foregoing gives a fairly good indication of what wide ranges can be encountered when comparing sizes of collections to sizes of staffs. However, these figures cannot be used for comparison with the recommended staff for the District Library; there is no way of knowing the kinds and amounts of internal processing carried out in these nine libraries, the kinds of services they provide, the aggressiveness or passiveness of their service policies, the numbers of users served, the nearness or remoteness of users, and other factors which must be considered.

Characteristics of Staff Members: Library staffs differ according to the kind of library in which they perform. In this report, the concern is with the staff of a special library, especially in a technically-oriented environment.

Special library staffs usually have a closer working relationship with the persons they serve and must be aware of their clients' problems and needs. They are aggressive in supplying information before it is asked of them. The majority of special librarians bring a subject competence to their job, as well as library training, through education and training or experience in the subject field.

Special libraries serve much smaller populations than public, school, and academic libraries. Therefore, the special library staff is much smaller and, of necessity, characteristically different. The Special Libraries Association has provided a list of eight characteristics of a special librarian. A summary of these follows:

- Desire to help
- Intelligence to deal with other intelligent people
- Tenacity to see a problem through
- Ability to go from one problem to another totally different
- Challenged by intellectual activities
- Flexibility to change methods and procedures, accept new ideas, innovate and discard old practices
- Willingness to work hard and under pressure
- Willingness to work and cooperate with others to achieve objectives of the larger organization

The head librarian must have organizational ability and the ability to run teams smoothly, in addition to a knowledge of the subject area and library techniques. Most importantly, he must recognize that the primary purpose of the library is to serve its users in the most efficient and effective means possible, and be able to impart this to the remainder of the staff.

Other staff members must be selected not only on the basis of their qualifications for the job, but also their attitude towards service to the user, their eagerness to contribute to the success of the library and the larger organization, and their interest in the future possibilities of libraries and particularly their role in the District Library.

In the dynamic, service-oriented environment projected for the District Library, the personal characteristics of the staff will in large measure govern the degree of success the Library achieves in working with users and fulfilling their needs.

Professional Qualifications: The qualifications of special librarians are closely tied to the characteristics discussed earlier. However, it is necessary to discuss briefly the educational qualifications and experience equivalents needed in the library staff.

A great deal has been written in the past few years about the importance of subject vs. library training in a special library situation, especially in scientific and technical areas. Some argue strongly that it is more important that the library staff have a subject competence gained through education and training rather than an educational background in library and information science. Many information centers whose staffs see their role as larger than that of the special library tend to follow this theory. Others argue just as strongly that library techniques gained through education are more important, with subject competence gained through experience. Much of the current literature indicates that a subject specialist is ideal for a small, eye's reach collection, but that a librarian trained in organization of information is more valuable in a larger collection.

In many library situations today, a compromise has been effectively carried out in which one staff member is a subject specialist and another is a trained librarian. The position of each of these in the internal library organization varies. Where the information center concept or a consolidation of all organizational information activities is predominant, the subject specialist is often the head staff member; where the library remains separate from other information activities, the trained librarian is more often in the top position.

In the Savannah District, it is believed that at least two of the three professional staff members recommended must have subject

knowledge in applied engineering and technical areas as well as familiarity with library skills and techniques.

Salaries: Since special librarians usually have both subject competence and library training, salaries tend to run higher than for other types of librarians. Within special libraries, scientific and technical librarians' salary levels are higher for net graduates and the number employed is greater than for other special librarians. In 1967, salary ranges for chief librarian ranged from $7,220 to $15,850; for chief information specialist from $9,650 to $18,580; and for information center director from $12,500 to $22,500 (M. F. Melzer, The Information Center: Management's Hidden Asset). In 1969, most new library school graduates are receiving salaries of $8,000 - $10,000 depending on their relevant background and experience. Salaries in special libraries average 70% of the library's budget; increases average about six percent a year.

In view of the foregoing figures given on present salary levels and in view of the nature of the library and library services and policies recommended for the District, it is believed that the head of the Library must, at minimum, be at the GS-11 level.

E. The Collection: Subject Coverage

As this report has pointed out, among the 361 professional employees of the District are represented many, many different disciplines and occupations; hence, as many differing areas of subject interest. This fact alone presents obvious problems with regard to the collection's subject coverage. And complicating the situation is the fact that, since no real history exists, it would only be hypothetical to say which disciplines or other groupings of employees would be the heaviest users of the Library's collections. Practically speaking, however, it is noted that fully 45% of the professional employees are engineers, while a whole range of disciplines constitute the remaining 55%. It is safe to prophesy a collection heavily weighted toward applied engineering and closely allied fields.

Section VIII of this report presents an overall subject interest profile for the entire Savannah District which can provide initial guidance in building up the Library's collection. The overall profile was developed through a systematic tabulation and analysis of responses received in the profiling survey from 293 professional employees of the District. It has been divided into three groups of

subject headings, representing subject areas of expressed interest as follows:

Group 1 - Subject areas which 50 or more persons indicated were of importance to them in connection with their work.

Group 2 - Subject areas which 21 to 49 persons indicated were of importance to them in connection with their work.

Group 3 - Subject areas which 7 to 20 persons indicated were of importance to them in connection with their work.

Since subject areas falling within Group 1 and 2 represent subjects for which at least 21 individuals have expressed an interest, it is reasonable to assume that the areas of heaviest concentration in purchasing for the Library's collection should be here, at least initially. This is not to say, however, that areas of expressed interest in Group 3 should be ignored. In fact, it is often true that only one person may express an interest in a certain subject, but this person's work is of such importance and his use of this information is so great that the Library must divert what would seem, by all other indications, a too-high percentage of its purchasing budget to this area. Generally speaking, though, it is probable that most needs of most users could be met by concentration of budget and collection resources in subject categories falling in Groups 1 and 2. The possibility always exists that individuals expressing an interest in a subject area may not be active users of the library; future analyses of the individuals actually making use of reference and circulation services of the Library will aid in assessing differences. The Library's publicity and public relations policies as well as decisions on current awareness and other programs and services will also have an effect.

Data provided by the profiles obtained as a part of this study can not only guide the initial emphasis on up-dating and building of the collection, but also can help in judging possible needs for purchasing multiple copies of items. Additionally, periodic re-profiling for comparison and updating purposes is a relatively simple and rapid procedure; this will provide insights into changes in emphasis, new subject areas, or areas in which a need no longer exists.

F. The Collection: Kinds and Forms of Materials

Below, needs for different kinds and forms of materials in the collection are discussed, based on users' responses to survey questions.

1. Periodicals: The professional, technical, and trade journal literature emerged as one of the most important categories of informational materials used by employees of the Savannah District. They are used on a current basis as the single most important source whereby the employees try to keep abreast of recent research results and new products and techniques in their fields. There is very little evidence of the journal literature's being used for any retrospective purposes; therefore, it is recommended that the Library, at maximum, keep the past year's and the current year's issues at hand in the Library. Beyond this, microfilm backup editions (as planned by the District) or more remote storage of hard copy issues should meet users' needs.

   In Section VIII of this report is a list of journals considered important by District employees - journals which they try to read in almost every issue. The journals are listed in frequency order, according to the number of individuals who indicated a particular title to be important to them in connection with their work. This list can be compared against the Library's current subscription list.

2. Secondary Publications: At present, abstracting and indexing publications are little used in the District. A handful of survey respondents did, however, mention specific secondary publications they try to examine regularly, including a few continuing bibliographies in narrowly-specialized subject areas. These are also listed in Section VIII of this report. In future, it may be expected that the abstracting and indexing publications will become more widely used in the District, as the Library begins to promote their use and begins to use these publications in connection with procedures for selection and acquisition of materials for the collection.

   Additionally, it is recommended that the Library staff compile and circulate lists of continuing bibliographies

that are published in fairly narrow fields of interest to District employees; this, in order to ensure that employees know of their existence and in order to assess extent of requirements for acquiring some of them on a continuing basis.

3. Books: Up-to-date textbooks, handbooks, general works and reference works in the many subject fields of interest to District employees, which will be absolutely essential to the core collection, do not now exist in the Library, for all practical purposes. Such monographic materials now reside in the collections of individuals and of particular organizations. These materials should be withdrawn to the Library, should be reviewed for retention or discard, and those selected for retention should form the beginning of the Library's collection. Some of these materials in personal and unit collections are, of course, items of almost daily use to employees, and a reasonable number of these should remain decentralized. Decisions will need to be made on an item-by-item basis as to whether specific materials retained in personal and unit collections (or purchased in future for such collections) should also be duplicated in the Library's holdings. Personal and unit collections should be kept to an absolute working minimum.

4. Technical Report Literature: The user survey indicates no need at present for building up a large collection of report literature. The existing collection is used hardly at all in the Savannah District. Though it is recommended that a large collection not be developed, it is recommended that this material be acquired on a very selective, item-by-item basis. For the present, items should be obtained in hard copy. The Defense Documentation Center's Technical Abstract Bulletin, Engineering Index and similar indexing and abstracting services should be reviewed by technical staff members in the categories and subjects identified as of interest to the District. In this way, items of potential interest or value will not be overlooked, and the review will serve as a way of alerting the technical staff to work being done in these specific areas by other organizations. It is recommended that subject area sections of these bulletins, special bibliographies, and individual notifications be routed to the users for an indication of interest in any new publications. Upon receipt of these items, a second selection review is recommended, again on

an item-by-item basis, to determine which should be retained as a permanent part of the collection.

5. Microforms: The present small microfiche collection of technical reports has been used hardly at all. Among those who know of the collection and have used it, there are indications not only that the present reader-printer is unsatisfactory, but moreover, that the medium itself is not liked. It is recommended that, in all possible cases, the technical report literature be acquired in hard copy for the immediate future, in order to help or remove possible barriers to the promotion of use of this source of information in the District.

6. Preprints and Reprints: Users did not report using preprints and reprints; however, as the Library progresses toward full implementation and makes it patrons more widely aware of what different forms and sources of information are available and as use of abstracting and indexing publications becomes more widespread, a demand for preprints and reprints might emerge

7. Translations: Separate translations of foreign technical writings, except as these might appear already translated in other media, are not in demand in the District. The demand will probably be kindled; but, until such time, the Library staff's knowledge of where such translations might be already available for ordering and sources where translations can be obtained on special order, should suffice. As indicated, interest is very low in the literature of specific foreign countries, with Russian, German and French, and Spanish being mentioned in that order of frequency.

8. Dissertations and Theses: Interest in dissertations and theses is very slight, the field of geology being the only one mentioned. Interest should be promoted; but these materials, like the technical report literature, should be acquired on a highly selective basis.

9. Manufacturers and Suppliers Catalogs: These kinds of materials are of a great deal of importance among the employees responding to the survey. They exist in collections outside the Library at present, where their use is very frequent; their assimilation as part of the Library's collection is by no means a high priority requirement at present. However, consideration should be given for such a move and consolidation in future.

10. Standards, Specifications, and Regulations: The importance of these kinds of materials to the work of District employees is well-recognized. The user study confirmed that problems in locating or otherwise getting hold of wanted items, when needed, are widespread indeed. No recommendation is included here, since this topic is being taken up under a separate Workunit in the TISA Model Technical Library Project.

11. Design Studies and Design Memoranda: These kinds of reports are much desired by District employees. It is recommended that a high priority, concerted, and continuing effort be maintained to acquire these from all sources - particularly, as expressed by the users - from Districts nearby the Savannah District.

12. Directories and Compendia: Directories and compendia will form a highly important part of the Library's collection. Indications are that most demands for quick- or ready-reference in the District will be met through resort to directories of organizations and the like. Additionally, directories and compendia of libraries, information centers, and other kinds of information sources and services will be important tools for the Library to use in performing its "referral center" functions, mentioned at the outset of this Section.

G. Organization of the Collection

Under a separate Workunit in the TISA Model Technical Library Project, decisions have already been made with regard to the physical and intellectual organization of the collection proper. With regard to the technical report literature that will be acquired on a very selective basis, it is recommended, for the present, that this material be organized by source and by the report numbers used by the source or distribution agency. In this way published indexes can successfully be used for identifying and retrieving reports. Eventually, perhaps within two or three years, the amounts of this material held might make it desirable to implement a special indexing and retrieval system for these materials. It is recommended, at that time, that a very simple descriptive cataloging system be used for these reports, employing COSATI cataloging rules, and that the Thesaurus of Engineering and Scientific Terms be utilized as the subject indexing authority.

H. Reference and Information Services

Through the survey, the users themselves have provided a priority-order listing of the kinds of services they consider would be useful to them in connection with their work. These are discussed below.

1. Announcement of new books, reports, and new periodical titles by the Library (new accessions list or bulletin): 175 of the 293 professional employees contacted by the survey indicated that this would be a useful service to them. It is recommended that the Library institute this service on a weekly basis, with individual copies of the bulletin or list, in a very simple format, being sent to all organizational units in Savannah and to all outlying offices of the District.

2. Answers to specific requests for information: These are quick look-up or ready-reference services desired by 169 of the 293 professional employees contacted by the survey. Indications are that the bulk of these requests will not be requests for technical data or information (the kind that users will normally look up in the textbooks, handbooks, manuals, etc. that they keep beside them for almost daily reference). Rather, it appears that demands will be made for general factual information, such as "What is the length of the Tennessee River," "What is the address (the telephone number) of ...," "What is the name of the publication that ...," and "What is a good source of information on ..." This service would be particularly important, as a telephone reference service, to the outlying offices where employees seldom have an opportunity to visit the Library.

3. Register of libraries, information centers, information analysis centers, and other services and sources of specialized information: 133 of the 293 employees reached by the survey indicated the usefulness of this service. This service is closely allied with and overlaps the service described in 2., above. Its importance to users is underlined by the fact that inability to locate sources of information and lack of knowledge about where to go to find information were informational problems mentioned prominently by the users surveyed. Additionally, it is

emphasized that just such a register or file of information will be a major tool whereby the Library can augment and supplement its own capabilities for user services.

4. Beyond the three most-frequently mentioned services listed above, 112 of the 293 employees contacted indicated that information services on new research and development projects would be useful; 109 of the 293 indicated that registers of subject experts in specialized areas of interest would be useful; and 102 of the 293 would find useful an information service on forthcoming meetings, symposia, and conferences in their professional fields.

5. Preparation of special, on-demand bibliographies: There is at present little demand for this kind of service; only 39 of the 293 persons contacted through the survey indicated that they would find such service useful to them in their work. This situation may in time reverse itself as the District employees become better acquainted with and more accustomed to valuable and responsive Library services.

Inter-library loan, to date not much used in the Savannah District, is expected to be of extreme value to the Library in augmenting and supplementing its own resources, particularly in subject areas where, for budgetary or other reasons, the Library does not maintain a very intensive collection. In conjunction with item 3., above, it is recommended that the Library apprise itself of important collections that can be made use of for such purposes, on a rapid-response basis. It will be noted that, through the survey, the users have already provided a list of libraries, as well as specialized centers, which they are even now making use of themselves. This list, given in Section V and in more detail in Sections VI and VII, will provide the springboard for identifying collections and services of special interest to users.

Routing of current issues of periodicals, as the policy now exists in the Savannah District, has created several major-sized problems for users. In fact, the nature of users' responses indicates that the channels are clogged with over 350 titles being routed, some in as high as 23 copies. Therefore, a revision of routing policies is recommended as follows:

1. Do not route a current issue of a periodical if that periodical is a single subscription item; at minimum, do not route the issue until it has been on the Library's current display shelves for at least a week.

2. Sharply limit the number of periodicals that an individual can have routed to him: say, only three or perhaps five of those he considers most important to him.

It is noted that the handling and routing of periodicals is being studied under a separate Workunit of the TISA Model Technical Library Project. Under that Workunit, plans are to experiment with several procedures, including routing of Xerox copies of tables of contents.

I. Orientation of Library Users

As part of the Library's responsibilities for providing effective services to users, it is recommended that a brief manual be prepared, for present and new District employees, which will describe the services offered by the Library, the policies governing use of these services, and the procedures for using them. Additionally, it is strongly recommended that a series of lectures or seminars be held to familiarize District employees with the great range of different kinds of services available to them beyond those offered specifically by the District Library. The lectures should include specific examples of the different kinds of services available, suggested sources of probably interest to them, and instructions on how to go about making use of these sources.

J. Recommended Further Studies and Projects

1. Library Mechanization: Two major areas present themselves as first-order candidates for employing data processing equipment in the mechanization of the Library. The first is the area of mechanization of serial records. As pointed out earlier in this Section, the Library subscribes to over 350 journal titles, some in multiple copies of from two to 23 subscriptions, and a mechanized system may be desirable and economically feasible for ordering and reordering, check-in, follow-up and other housekeeping procedures. Mechanization of serial records will be aimed primarily at

achieving better systems and procedures in this area than are now possible under the present entirely manual procedures being followed; it will not, of course, eliminate the need for a fair amount of manual effort to be spent in the handling of periodicals. The second candidate area for mechanization is the production and periodic updating of a book catalog of the Library's holdings. While a book catalog might not be of extreme importance to individuals located in the same building with the Library, a book catalog would go a long way toward extending to personnel in outlying offices some of the services enjoyed by employees in Savannah.

2. Inventory of Personal and Unit Collections: This study has shown that personal and unit collections of library materials are extensive and, in some cases, intensive in the Savannah District. The recommendation has been made, in this Section of the report, that these collections be disestablished so that the Library may become the major source of information in the District. As a first step toward accomplishing this and, at the same time, as a first step toward developing a policy on what kinds of frequently-used materials should be allowed in personal and unit collections, it is recommended that an inventory be made to identify each of these collections, the scope and kinds of materials in each, and the uses made of each collection.

3. Information Resources Study: In this report, it has been repeatedly emphasized that it will be very important for the Library to capitalize on all manner of other available services and resources outside the Library to supplement and augment its own capabilities to serve users. This will entail identification of the libraries, centers, and all kinds of activities and services available that the Savannah District could well-utilize. Beyond this mere identification step, it will be important for the Library to know what different kinds of supportive informational services can be obtained from each entity identified, the terms and conditions for such services, the speed with which services can be obtained, the mechanisms and procedures involved, and so forth. This so that the Library will stand ready to respond as rapidly as possible to demands of its users. While not a study of major proportions, it is nonetheless a sizeable task which the present staff may not have time to carry out in the near future. Therefore, it is recommended that this work be performed under contract, with the findings of the present user study being used for initial guidelines.

SECTION V: CORRELATION AND SYNTHESIS OF MAIL QUESTIONNAIRE AND INTERVIEW SURVEY RESULTS

In this section are presented and discussed the findings of both the mail questionnaire and the interview survey of users and potential users of the Savannah District Library. Detailed tabulations of the users' responses to individual questions are presented in Section VI (Interview Survey Results) and Section VII (Mail Questionnaire Survey Results) of this report.

As stated earlier in this report, the employees of the Savannah District at the time of this study numbered about 925 individuals and, for the purposes of this study, 361 of these individuals - professional employees of the District - were defined as the users and potential users of the Library. This body of 361 individuals was further subdivided into two major groups as follows:

- 206 scientists and engineers, persons defined as such in keeping with the broad definition of scientific and engineering professions used in the previous survey of the DoD-wide RDT & E community; and

- 155 other professional employees, persons in professional employment categories falling outside the scope of the previous DoD-wide survey.

With regard to the group of 206 scientists and engineers, it was necessary to obtain a minimum of 124 usable interviews (60% of 206) in order to achieve the level of confidence desired in the data collected and in order that certain of the data collected might be compared with the results of the previous survey of the DoD-wide RDT & E community. Ultimately, usable interviews were obtained from a randomly selected sample of 129 (63%) of the 206 scientists and engineers. Mail questionnaires were distributed to all of the remaining 77 scientists and engineers, 51 (67%) of whom returned usable questionnaires.

With regard to the group of 155 other professional employees, usable interviews were obtained from 26 of these individuals. Mail questionnaires were distributed to all of the remaining 129 employees, 87 (67%) of whom returned usable questionnaires. The 26 individuals interviewed constituted a so-called judgment sample. These individuals were selected with the expert advice of the Savannah District on the

basis that these individuals were judged best able to provide information desired concerning the information needs of the other professional employees. Budgeting limitations prohibited drawing a 60% probability sample, as in the case of the District's scientists and engineers. Although any inferences drawn from the responses obtained from these 26 individuals would be regarded as statistically invalid, certain patterns did emerge in the responses of the interviewees which were strongly reinforced by similar patterns observed in responses to the mail questionnaire; therefore the results are regarded as satisfactory for planning purposes in connection with the Library.

Backgrounds and Characteristics of Users

In this study, professional employees' official Position Titles with the equivalent Civil Service Codes for these Titles were used to distinguish among the various kinds of scientists, engineers, and other professional employees of the District covered by the user survey. Detailed breakdowns of these employees are given in Section VI (for the individuals interviewed) and in Section VII (for the individuals who received mail questionnaires), so this information is not repeated here.

With regard to the ages of the District's professional employees, about 72% of the 206 scientists and engineers are 40 years old or older; 21% are between the ages of 30 and 40; and 7% are less than 30 years old. Among the other professional employees, the percentage of individuals over 40 years of age may be higher than 72%.

Roughly six out of every ten of the scientists and engineers has a responsibility for the supervision of other technical personnel. Among the other professional employees this ratio appears to be lower - perhaps only three or four out of every ten.

Some 170 of the 206 scientists and engineers hold bachelor's degrees and about 10 hold master's degrees; the remaining 26 do not hold college degrees. Of the total 180 or so holding college degrees, approximately 45 (25%) obtained their highest degree more than 25 years ago; about 70 (38%) obtained their highest degrees between 15 and 25 years ago; and about 65 (37%) obtained their highest degrees within the last 15 years. Data are not available for the other professional employees.

Among the 206 scientists and engineers, about 40% have been employed by the District for five years or less; 20% for 6 to 10 years;

and the remaining 40% for more than 10 years. The distribution for the 155 other professional employees seems to follow a very similar pattern; however, there are indications that the percentage of newer employees, those employed 5 years or less, is higher than 50%.

In the area of job experience, about 10% of the scientists and engineers have been doing their present kind of work for only one year or less; about 40% have been doing their present kind of work for one to five years; and the remaining 50% have been doing their present kind of work for over five years. Among the other professional employees, there is possibly a quite different distribution, with the majority (perhaps two-thirds) of them having been engaged in their present kind of work for more than five years.

With regard to GS ratings among the scientists and engineers, 28% are less than GS 12's, 45% are GS 12's, and 27% are higher than GS 12's. The pattern among the other professional employees is considerably different, with a majority (at least 60%) being under the rating of GS 12.

Analysis of Task Information

In the interviews, respondents were asked a series of questions concerning information they had sought for use on a recently-completed task. A closely related series of questions was asked in the mail questionnaire. The major aims of these two series of questions were to gain insights into the usual practices of the professional employees in seeking information they need for a job at hand.

The 129 scientists and engineers interviewed described 268 instances (more than two each) where they had to have some information to carry out a task. In 22% of the instances, the information was needed in less than one day, although the respondents stated that in 40% of the instances the information was actually obtained in less than one day. In most of the other instances there appeared to be no significant difference between the time it took respondents to obtain the information they needed and the maximum time which could have been allowed to obtain it: 19% could have allowed up to a week; 15% could have allowed up to 30 days; and 18% could have allowed more than 30 days. In the remaining 25% of the instances, some of the respondents reported having simply recalled the needed information, but others reported various difficulties which will be described later in this section.

Scientists and engineers responding to the mail questionnaire reported 31 recent incidents when they had found it necessary to obtain information for a specific task. In only 25% of these instances, the information was needed in less than one day and was obtained in one day; in the remaining 75% of these instances, respondents could have and did wait longer for the information.

The 26 other professional employees who were interviewed described 51 recent instances when they had to obtain information to use on a specific task at hand; respondents to the mail questionnaire reported 44 recent occasions when they had to obtain such information. The response patterns displayed similarities to those of the scientists and engineers: about 25% had to have the information in less than one day and the remainder could have waited varying periods of up to one week, up to 30 days, and over 30 days. Their success in obtaining the information within the maximum amount of time allowable was generally satisfactory, but problems were encountered, as shall be discussed later in this section.

When asked about how they first went about getting the information they needed for the specific tasks being performed, scientists and engineers interviewed stated that in 23% of the instances they first searched in their own personal collections or those of their organizational unit; in 17% of the instances they contacted or otherwise looked into manufacturer and supplier sources; in 15% of the instances, they talked with a supervisor, colleague, or other in-house source of expertise; and in 8% of the instances they first relied upon the District Library's resources. The remainder used a miscellany of different first sources. Scientists and engineers responding to the mail questionnaire reported 31 information-seeking instances, in which cases about 30% first consulted their own or their own unit's collections; 19% consulted manufacturer and supplier sources; 13% consulted colleagues; and 13% first tried the District Library.

With regard to the other professional employees of the District, the sources consulted first when seeking job-related information most frequently appear to be colleagues and personal collections and the collections and files of various organizational units. Other first sources mentioned prominently in the interviews and in the mail questionnaires were: contacts with and information from manufacturer and supplier sources and (in contrast with the scientists and engineers) libraries other than the District Library. Their reliance on the District Library itself as a first source of information appears very significantly less than that of the scientists and engineers.

When asked the reason why they used a particular source first, of the scientists and engineers interviewed, 28% stated that the source was the only one known; 23% stated that it was because the source was available, handy, and easy to use; and 23% stated that the source was known to be the most authoritative. The remaining 26% gave various other responses. Generally speaking, this pattern of response also prevailed among the answers given by scientists and engineers completing the mail questionnaire. Among the other professional employees interviewed and queried through the mail questionnaire, the most frequently mentioned reason for using a given source first was that it was the only known source. Beyond this, the most frequently given reasons were that the source was available, handy, or most convenient and that the source was the proper or most authoritative source.

Success in getting all of the information needed from the first source consulted was reported in 62% of the instances described by the scientists and engineers interviewed; only part of the information needed was obtained from the first source in 27% of the instances; irrelevant, inappropriate, or no information at all was obtained in 17% of the instances. In the 31 information-seeking instances described by scientists and engineers responding to the mail questionnaire, the first source consulted provided irrelevant, inappropriate, out-of-date information, or no information at all in more than 40% of the cases. For the other professional employees, the experiences of success and lack of success in obtaining needed information from the first sources consulted are very similar to those of the scientists and engineers.

The scientists and engineers and the other professional employees interviewed were shown a list of "media" and were asked to identify those media by which they received the task-related information they had been seeking. This list was developed and used during the previous survey of the DoD-wide RDT & E community. The items on the list were neither mutually exclusive nor sufficiently well-defined, so the use of the list in the present survey was not fruitful for the purposes of the study, with but perhaps two exceptions: of the total 268 information-seeking instances described by the scientists and engineers, in only four instances was the needed information obtained from journals, preprints, or reprints and in only three instances was the needed information obtained from microfilm or microfiche sources. The other professional employees did not report having obtained sought-for information from either of these "media."

In the 268 instances of seeking task-related information described by the scientists and engineers interviewed, the respondents indicated that title listings or abstracts of publications would have been

actually used in only 7% of the cases; would probably have been found useful in another 17% of the cases; but would not have been useful in about 75% of the cases. The other professional employees responded similarly with regard to their recent experiences.

In the mail questionnaire, scientists and engineers described difficulties they had encountered during 31 recent information-seeking occasions they had described. A variety of responses were received. Difficulties were experienced in 27 cases, half of which related to inability to locate needed materials in the Library or elsewhere, materials not being on hand or otherwise unavailable in the Library when wanted, and inadequate scope of subject matter in the Library collection. In over 20% of the 27 cases, individuals mentioned time consumed in finding sources for the information needed; and 15% of the 27 explained that they never did find the information they sought. The other professional employees, who described a total of 56 recent occasions when they had sought specific task-related information, reported difficulties in 41 cases. Two-thirds of the difficulties had to do with unavailability of information, unavailability when needed, etc. Some 15% reported problems in finding information sources.

Use of Libraries, Information Centers, and Facilities Other than the Savannah District Library

One-third of the scientists and engineers interviewed used libraries other than the District Library during the past year in connection with their work. More than 20 other libraries were mentioned, but most prominently, the Savannah Public Library, the Georgia Institute of Technology Library, the University of Georgia Library, and the Waterways Experiment Station Library. Scientists and Engineers responding to the mail questionnaire survey also indicated these to be the most prominently used outside libraries.

With regard to the other professional employees, the Savannah Public Library is the most prominently used, but the Coleman Library at La Grange, Georgia, and a number of libraries at military installations throughout the Savannah District were mentioned several times each.

During the interviews, the 129 scientists and engineers were shown a selected list of 62 Federally-sponsored specialized information and information analysis centers; 80% knew of or had heard of one or more of the centers listed and 37% claimed to have used the services of at least one of these centers during the past year. Of the 26 other professional employees interviewed, half know of or had heard of some

of the centers; but only four claimed to have used the services of one or more of the centers during the past year.

Scientists and engineers and other professional employees were also asked to indicate any centers named on the list which they thought might be useful to them, even though they had never heard of them or had not made use of them. Almost half of 129 of the scientists and engineers found centers on the list which might provide services useful to them in their work; about half of the 26 other professional employees found possibly useful centers on the list.

Use of Savannah District Library

Approximately three-fourths of the 206 scientists and engineers have made use of the District Library's facilities and services during the past year. Indications are that very significantly fewer of the 155 other professional employees have done so.

About 36% of the scientists and engineers who have used the Library during the past year consider its collection of books, reports, and periodicals inadequate to their needs for the major reasons that what material is in the collection is out-of-date; that the subject scope itself is severely limited; and that additional reference works and texts are needed to provide greater subject depth in specialized fields. Among the other professional personnel who have used the Library in the past year, a similar percentage considers the collection inadequate for the same major reasons.

About 20% of the scientists and engineers who have used the Library in the past year have encountered problems in the organization and arrangement of the collection. Most of the problems described related to an inability to locate subject classes of interest on the shelves without the aid of a librarian; periodicals not in chronological sequence was the next most frequently stated problem. Other professional employees who have used the Library in the past year expressed little difficulty.

With regard to circulation service, less than 15% of the District's scientists and engineers have checked out materials from the collection during the past year; significantly less of the other professional employees have apparently availed themselves of this service. Major problems encountered relate mainly to loan policies and procedures and, very specifically, to periodical routing policy, wherever current issues of journals are routed and are not in the Library for use. Other

difficulties stated relate to the policy of some materials being charged out on indefinite loans to various organizational units and lack of knowledge at field offices of what materials are available for borrowing.

Use of interlibrary loan service has been low; only about 25 of the 206 scientists and engineers and apparently only 2 or 3 of the 155 other professional employees have made use of this service during the past year.

Also, only about 25 of the 206 scientists and engineers and only perhaps three or four of the 155 other professional employees have used the microfiche reader-printer since its installation.

About 35 of the 206 scientists and engineers and probably only about five of the 155 other professional employees have used the card catalog during the past year.

Some 67 of the 206 scientists and engineers have requested the Library to perform other services for them at various times during the past year. By far the majority of these requests were for the procurement of needed regulations and standards, specific books, or other materials wanted; in contrast, very few requests were for different kinds of reference services (locating sources of information, quick- or ready-reference questions, and searches for publications on particular subjects). Apparently, an extremely small number of the other professional employees have called upon the Library staff to perform other kinds of services for them during the past year, and these, in the main, had to do with the ordering or procurement of handbooks, circulars, and regulations. Among problems encountered, those most frequently mentioned had to do with policies and procedures for requisitioning wanted materials; some dissatisfactions with the Library staff's services were expressed.

About 80% of the 206 scientists and engineers receive periodicals and other materials through the Library's routing service. Far fewer, perhaps as few as 30%, of the 155 other professional employees receive this service. Almost all of the recipients of this service have difficulties with it. The most frequently mentioned complaints are related to lack of selectivity in the routing of materials to individuals and too much material being received. The amount of time it takes to get current material routed around through all recipients is the next most frequent complaint. Not being able to locate specific issues of journals because they are being routed or have been routed and have disappeared is another prevailing difficulty.

About half of the 206 scientists and engineers, but less than half of the 155 other professional employees use the Library's collection of Regulations. Of those persons who use the Regulations, most have encountered problems in their use, mainly with regard to lack of availability or inability to locate.

In the mail questionnaire, respondents were asked to describe any other problems they had encountered in making use or trying to make use of the Library's collection, facilities, and services. The most frequently mentioned problems had to do with lack of knowledge or familiarity with the services of the Library, how to make use of the Library, and what the collection comprises; beyond this, problems of inaccessibility and non-availability of services to employees in field offices outside Savannah were mentioned, as well as complaints on loan policies.

All professional employees interviewed and all professional employees who received the mail questionnaire were asked to review a list of different kinds of information services which it might be possible for the Library to provide and, on this list, indicate those services that they would consider useful to them in connection with their work. The outcome of this is shown below, where the answers of interviewees and mail questionnaire respondents have been combined.

Scientists and Engineers (179 of Total 206 Individuals)

Possible Service	No. Considering Service Useful
Announcements of new books, reports, and periodicals acquired by the Library (new accessions list or bulletin).	117
Answers from the Library to specific requests for information (quick look-up, ready reference services).	112
Register of libraries, information centers, information analysis centers, and other services and sources of specialized information where useful information or data might be located	88

Scientists and Engineers (179 of Total 206 Individuals) Cont'd

Possible Service	No. Considering Service Useful
Information service on new research and development projects of interest.	86
Registers of subject experts and consultants in specialized areas of interest.	70
Information service on forthcoming meetings, symposia, and conferences of interest.	69
Preparation of bibliographies on request.	38

Other Professional Employees (113 of Total 155 Individuals)

Possible Service	No. Considering Service Useful
Announcements of new books, reports, and periodicals acquired by the Library.	58
Answers from the Library to specific requests for information.	57
Register of libraries, information centers, information analysis centers, and other services and sources of specialized information where you might locate useful information or data.	45
Registers of subject experts and consultants in specialized areas of interest to you.	39
Information service on forthcoming meetings, symposia, and conferences of interest to you.	33
Information service on new research and development projects of interest to you.	26
Preparation of bibliographies on request.	11

Users General Information Patterns

Almost 50% of the 206 scientists and engineers regard periodicals (professional, technical, and trade journals) as their best means of keeping themselves aware of recent research results and new developments, products, and techniques related to their work; 16% regard manufacturers' and suppliers' brochures, catalogs, and other publications and contacts with manufacturers' and suppliers' representatives as their best means of keeping abreast; 13% regard new specifications and regulations and changes to these as their best means; 9% rely mainly on discussions with colleagues and others working in their fields; 7% regard seminars, conferences, and professional society meetings as their best means; and 2% rely on the newspapers; the remaining 5% claim either that they do not know of any means of keeping abreast of new developments, products, and techniques or that keeping abreast is inapplicable to their work. Among the 155 other professional employees, the pattern described above appears to be essentially the same.

The major difficulties encountered in trying to keep abreast of recent research results and new developments, products, and techniques are: not having enough time to read or go through all material received; problems related to the routing system for periodicals and non-availability of current issues of periodicals; remoteness from library and library services; and that information is not timely when published. It is considered worth pointing out, by adding together responses from all interviewees and all mail questionnaire respondents, that 141 (at least 40%) of the District's 361 professional employees indicated no problems in keeping abreast of new developments; that 17 (at least 5%) indicate that they don't have or don't know of any means of keeping abreast, think they might have a problem, etc.; and 18 (at least 5%) indicate lack of interest or a belief that new developments, products, and techniques are inapplicable to their work.

Among the 206 scientists and engineers, 50% regard professional and technical journals as their best means of becoming aware of research and development studies and projects that are just starting up or are being carried out in government laboratories, universities, research institutions, and industrial firms; the best means for 11% are personal contacts with others working in their fields; 9% rely on manufacturers literature and representatives; 5% indicate that their best means are through attendance at seminars, conferences, and meetings; 5% have various other means; 3% find out by chance; and 22% are either not interested or they indicate no need for such information. For the 155 other professional employees, the same general pattern emerges.

Almost 60% of the scientists and engineers consider that they have no problems in becoming aware of research and development work in progress and, as indicated above, 22% are uninterested or consider they have no need for such information. The remaining 12% express problems in this area: not enough information available to them; no good channel or means for getting research and development information; and information out-of-date when they find out about it. The situation among the 155 other professional employees is, again, very generally the same, except that more of them (at least 30%) express problems similar to those described by the scientists and engineers.

When asked how they generally go about gathering background information when they are working on or about to start working on a task, 35% of the scientists and engineers indicated that they first go to their own collections and files, those of their own organizational unit, or those in another section; 14% indicated that they first start with the District Library or a library; 11% generally start by talking with colleagues knowledgable in their fields; 10% generally start by contacting manufacturers and suppliers; only 2% start with bibliographies or abstracting publications; 29% describe a variety of other generally-followed approaches; and the remaining 9% indicate that all background information is automatically furnished them or that background information is not necessary to their work. Among the 155 other professional employees, individuals' own collections and files, those of their own and other work units, and consultation with colleagues are major prevailing approaches for going about gathering background information. To an obviously high percentage of these employees, gathering background information quite apparently means going over or reviewing plans, specifications, regulations, and the like. In contrast with the scientists and engineers, none of the respondents mentioned the District Library, but 6 of the 87 respondents to the mail questionnaire mentioned other libraries as the usual first source they used in gathering background information.

About half of the scientists and engineers reported no problems in gathering background information; however, among almost all of the remaining 50%, significant problems are being encountered: material not available or not available because someone else has it; information is out-of-date; lack of knowledge of where to locate information or information sources; and lack of access to the Library or a library. These are also prevailing problems among the 155 other professional employees.

Although 46% of the 206 scientists and engineers physically obtain most of the publications needed in their work from or through the District Library, 13% obtain most of their publications through personal subscrip-

tions, purchases, and society memberships. Some 19% apparently get most of the materials they use passed to them automatically or routinely through channels; 5% obtain most of their publications from manufacturers and suppliers; and the remainder use various other means. In contrast with the scientists and engineers, an apparently smaller percentage of the 155 other professional engineers physically obtain most of their publications from or through the District Library, and several (at least 6) mostly use other libraries for this purpose. Also, there are indications that a high percentage obtain the materials they need mostly from the collections and files maintained in their own units or in other units. Otherwise, as in the case of the scientists and engineers, they (at least 5% of them) order most publications from manufacturers and they (at least 8% of them) purchase most publications themselves.

Major problems focus on cumbersome ordering and procurement procedures; delays between time of order and time of receipt of requested materials; library loan policies; non-availability of publications when needed; and not knowing locations and sources or likely locations and sources where publications can be obtained.

All interviewees and mail questionnaire recipients were asked, with respect to all of the tasks they worked on over the last year, if they had had any difficulty locating or obtaining information needed to perform or complete these tasks. Summarizing all responses, 87 professional employees described problems that they had encountered and 191 indicated no problems or no additional problems other than those they had described previously (total: 278 employees responding; 83 non-respondents). The problems described by the group of 87 individuals (amounting to 25% of the District's total professional staff) were largely repetitious of difficulties noted earlier and so are not treated here.

Indications are that only about 9% of the District's scientists and engineers use English translations or English language abstracts of foreign literature, with the major languages being Russian, German and French, and Spanish, in that order. With regard to the other professional employees, no usage was indicated whatsoever.

In a somewhat related vein, in the responses to the mail questionnaire, certain of the scientists and engineers mentioned special interest in work on soil mechanics in the U.S.S.R., work on hydraulic turbine performance in Japan, the Tarbela Dam Project in Pakistan, destratification of lakes and reservoirs in New Zealand, and land reclamation work in The Netherlands. Otherwise there were no other indications of special interest in the literature of specific foreign countries.

SECTION VI: INTERVIEW SURVEY RESULTS

This section of the report presents detailed tabulations of the responses received to the 98 questions in the interview schedule adminstered to 129 scientist and engineers and 26 other professional employees of the District. Many of the questions were open-ended, allowing for free response on the part of interviewees; insofar as possible, the actual words used by interviewees have been retained with but minor editing to bring together in the tabulations those responses which were highly similar. In the tabular headings, F(requency) means the number of times a particular response was given by the interviewees; in some cases, the total number of responses exceeds the total number of individuals interviewed, indicating that multiple responses were received from some interviewees. The percentages recorded in the tabulations express the relationship of the F(requency) of particular responses to all (100%) of the responses received for a given question. Where totals for percentages exceed or fall short of 100, this has been a result of rounding.

VI-A. Description of Users' Characteristics

A series of seven questions was asked to elicit information concerning the interviewee's job title, age, education, years of work experience, and other personal data in order to very generally characterize the employments and backgrounds of scientists and engineers and of other professional employees of the Savannah District. The first question was asked at the outset of the interview; the other six questions, covering more personal information, were asked at the end of the interview. The results are shown in the following tables.

Q.1. What is your present Civil Service job title?

Responses from Scientists and Engineers

Position title (Civil Service Code)	F	%
Economists (0110)	1	1
Personnel Management, Personnel Staffing, Position Class, and Employee Development Specialists (0201, 0212, 0221, 0235)	4	3
Reservoir Management Specialist (0301)	1	1
Emergency Operations Planners (0301)	1	1
Computer Programmers (0334)	2	2
Management Analyses (0343)	2	2
Biologists (0401)	1	1
Foresters (0460)	4	3
Engineers: General Engineers (0801), Value Engineers (0801) Safety Engineers (0803), Civil Engineers (0810), Sanitary Engineers (0819), Mechanical Engineers (0830), Electrical Engineers (0850)	96	74
Landscape Architects (0807)	2	2
Architects (0808)	8	6
Geologists (1350)	4	3
Librarians (1410)	1	1
TOTALS	129	100

Q. 1. (Continued)

Responses from Other Professional Employees

Position title (Civil Service Code)	F	%
Administrative positions (0341, 0342)	2	8
Finance, accounting, and budgeting positions (0505, 0510, 0560)	2	8
Construction representatives and construction inspectors (0809, 1640)	6	23
Attorneys (0905)	2	8
Procurement specialists (1102)	1	4
Realty specialists and appraisers (1170, 1171)	8	31
Power project superintendents, reservoir managers (1601)	3	12
Supply specialists (2001)	1	4
Transportation specialists (2150)	1	4
TOTAL	26	101

Q. 93. In what year were you born?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Before 1910	16	12	3	12
1911-1920	27	21	5	19
1921-1930	50	39	11	42
1931-1940	27	21	5	19
After 1940	9	7	2	8
TOTALS	129	100	26	100

Q. 94. How many technical personnel do you supervise?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
None	56	43	9	35
1-10	56	43	11	42
Over 10	17	13	6	23
TOTALS	129	99	26	100

Q. 95a. Highest degree held.

	Scientists and Eng.	
	F	%
No degree	17	13
Bachelor's	106	82
Master's	6	5
TOTALS	129	100

Q. 95b. Year in which highest degree was obtained.

	Scientists and Eng.	
	F	%
(No degree held)	(17)	(13)
Before 1945	27	21
1945-1954	43	33
After 1954	42	33
TOTALS	129	100

Q. 96. How long have you been doing your present kind of work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One year or under	12	9	1	4
1-5 years	54	42	6	23
Over 5 years	63	49	19	73
TOTALS	129	100	26	100

Q. 97. How long have you been employed by the Savannah District?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One year or under	11	9	1	4
1-5 years	39	30	5	19
6-10 years	26	20	4	15
11-20 years	31	24	9	35
Over 20 years	22	17	7	27
TOTALS	129	100	26	100

Q. 98. What is your present GS Rating?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
GS 05-10	8	6	8	31
GS 11	29	22	8	31
GS 12	58	45	5	19
GS 13	29	22	4	15
GS 14	5	4	1	4
TOTALS	129	99	26	100

VI-B. Analysis of Task Information

The following series of questions was aimed at obtaining information concerning a task recently completed by the interviewee: how the task first came about, duration of the task and percentage of time the interviewee actually spent on the task while it was in progress, the end-product of the task, and other topics. The main purposes of those questions were (1) to gather data for comparison with some of the results obtained by the previous survey of scientists and engineers in the DOD-wide RDT & E community; and (2) to establish a frame of reference for asking the interviewee a subsequent series of questions pertaining to the interviewee's acquisition and use of information in carrying out the task. The following tables present the results of the task-related questions.

Q. 3. Will you please describe for me one or more of the most recent tasks you have completed?

In keeping with the previous DOD-wide survey, interviewers explored several recently-completed tasks with respondents and identified, for discussion, tasks meeting the following three criteria: (1) tasks on which respondents spent eight or more hours, (2) which involved the use of technical information, and (3) which had definable outputs. The tasks described by the respondents were not analyzed; the task decriptions served only as reference points for asking questions 4 through 10.

Q. 4. What prompted the task - that is, was the task assigned to you?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes, assigned	96	74	16	62
No, not assigned	33	26	10	38
TOTAL	129	100	26	100

Q. 5. If the task was not assigned, how did it originate? (This question was asked of the interviewees who answered "no" to Q. 4)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Task was assigned - Q. 4)	(96)	(74)	(16)	(62)
Self-generated	6	5	0	0
Joint decision by respondent and others	3	2	0	0
Other	24	19	26	100
TOTAL	129	100	26	100

Q. 6. What was the total elapsed time that you were active on this task, from the time you started it until the time you finished it, including periods during which you may have been diverted to other activities?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
1 day	22	17	4	15
2 days	17	13	1	4
3 days	8	6	5	19
4-7 days	10	8	5	19
8-14 days	11	9	1	4
15-21 days	5	4	1	4
22-28 days	9	7	1	4
More than 28 days	47	36	8	31
TOTAL	129	100	26	100

Q. 7. During the total elapsed time that you were active on this task, about what percentage of your work time did you devote directly to the task?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
20% or under	46	36	10	38
21-40%	14	11	4	15
41-60%	13	10	4	15
61-80%	23	18	0	-
81-100%	33	26	8	31
TOTAL	129	101	26	99

Q. 8. What was the major output of the task?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Task data or information	11	9	0	0
A finding	13	10	5	19
A recommendation	29	22	3	12
A decision	10	8	2	8
A plan	6	5	-	-
A design (includes specifications)	27	21	-	-
Hardware	0	0	-	-
Other	33	26	16	62
TOTAL	129	101	26	101

Q. 9. How was the major output of the task presented or transmitted?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Formal document	75	58	17	65
Formal briefing or demonstration	3	2	1	4
Informal document or memorandum	6	5	1	4
Informal briefing or discussion	6	5	-	-
Some combination of the above	5	4	1	4
Other	34	26	6	23
TOTAL	129	100	26	100

Q. 10. To whom was the major output of the task directed?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Individual's own use	8	6	1	4
Individuals within the district	42	33	4	15
Members of respondent's profession	0	0	-	-
A major segment of an industry	1	-	-	-
A particular contractor or contractors	47	36	2	8
Department of Defense	8	6	-	-
Some combination of the above	18	14	7	27
Other	5	4	12	46
TOTAL	129	99	26	100

VI-C. Information Used in Task Performance

With reference to the recently-completed task discussed with the respondent in the preceding series of questions, the interviewer posed a series of 19 additional questions pertaining to the respondent's acquisition and use of information in carrying out and completing the task. The major purposes of these questions were twofold: (1) again, to gather data for comparison with some of the results of the previous survey of the DOD-wide RDT & E community; and (2) to gain insights into information gathering and information use patterns and practices in the Savannah District; information problems; time requirements; and other factors which bear on recommendable programs and services for the District Library.

Q. 11. Now I am going to focus my questions on all of the chunks of information you used to accomplish this task. What are these chunks? Would you describe each of them to me?

From the respondent, interviewer obtained identifications of two or more distinct items of information used by the respondent in carrying out his described task. The items of information were, again, used only as reference points for the questions which followed and so were not analyzed.

Q. 12. How much time elapsed from the time you requested this chunk of information - or from the time you started to search for it - until you got it?

	Scientists and Eng.		Other Prof. Emp.	
		%		%
From recall	19	7	3	6
Less than 1 day	109	41	18	35
1-7 days	47	18	16	31
8-30 days	34	13	3	6
More than 30 days	36	13	10	20
Not applicable	23	9	1	2
TOTAL	268	101	51	100

Q. 13. From the time you requested this chunk or started to search for it, was there a maximum elapsed time you could have allowed to get it?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
From recall	16	6	7	14
Less than 1 day	59	22	7	14
1-7 days	52	19	12	24
8-30 days	41	15	7	14
More than 30 days	47	18	17	33
Not applicable	53	20	1	2
TOTAL	268	100	54	101

Q. 14. How did you first go about getting this information chunk?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Received with task assignment	41	15	-	-
Asked my supervisor	12	4	-	-
Asked a subordinate to get it	16	6	2	4
Recalled it	12	4	-	-
Asked a colleague	27	10	12	24
Asked an internal consultant	2	1	-	-
Searched own collection	39	15	8	16
Requested search of department files	22	8	-	-
Requested District Library search	11	4	-	-
Searched in District Library	12	4	-	-
Searched in outside library	-	-	3	6
Searched DOD information/data center	-	-	-	-
Requested search of DOD information/ data center	-	-	-	-
Searched manufacturer, vendor, or supplier sources	18	7	-	-
Requested data from manufacturer, vendor, or supplier	28	10	7	14
Other	28	10	19	37
TOTAL	268	98	51	101

Q. 15. What is the main reason that you used this source first?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Received with task assignment	41	15	-	-
Only source known	75	28	31	61
Most authoritative	61	23	9	18
Available, handy, easy to use	62	23	4	8
Recalled, or was told that specific chunk was available from the source	15	6	3	6
Found helpful previously	4	1	1	2
Other	10	4	3	6
TOTAL	279	100	51	101

Q. 16. What did you get from this first source?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
All the information needed	167	62	32	63
Part of the information needed	72	27	17	33
Reference to another source	6	2	1	2
Irrelevant or inappropriate information	3	1	-	-
Nothing	14	5	1	2
Other	6	2	-	-
TOTAL	268	99	51	100

Q. 17. Please examine this list and tell me by which of the media you received this information chunk? (Interviewees were shown a list of media comprising those listed below.)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Brochures	-	-	-	-
Catalogs	16	6		
Standards and codes	19	7	4	8
Drawings and schematics	11	4	2	4
Parts lists	-	-	1	2
System specification document (QMR, TDP, etc.)	11	4	5	10
Oral contacts with manufacturer	13	5	1	2
Oral contacts - all other	35	13	9	18
Meetings and symposia	3	1	1	2
Directives	8	3	-	-
Correspondence, memos, and TWX	16	6	7	14
Handbooks	19	7	1	2
Manuals	34	13	8	16
Newsletters and other mass media	5	2	-	-
Live demonstrations	-	-	-	-
Preprints and reprints	2	1	-	-
Proposals	2	1	-	-
Reports	30	11	1	2
Textbooks	5	2	-	-
Photographs, maps, and films	2	1	1	2
Journals	2	1	-	-
Previous knowledge	8	3	3	6
Computer printout	1	-	1	2
Personal notes, personal logs, and personal files	6	2	-	-
Physical measurement or experiment	1	-	3	6
Microfilm or microfiche	3	1	-	-
Slides or motion pictures	-	-	-	-
Other	16	6	2	4
TOTAL	268	100	51	100

Q. 18. Do you regularly use these media to obtain this kind of information?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	251	94	50	98
No	17	6	1	2
TOTAL	268	100	51	100

Q. 19. At the time you obtained this information chunk would you rather have had it presented by any other medium?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	19	7	9	18
No	249	93	42	82
TOTAL	268	100	51	100

Q. 20. When you received this chunk of information, did you get (see responses below):

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One report or document?	99	37	22	43
A sampling of the reports and documents available?	36	13	3	6
All reports and documents that could be found pertinent to the question?	77	29	17	33
All from recall	41	15	4	8
Other	15	6	5	10
TOTAL	268	100	51	100

Q. 21. For each information chunk, did you want (see responses below):

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One report or document?	103	38	23	45
A sampling of the reports and documents available?	18	7	1	2
All reports and documents that could be found pertinent to the question?	97	36	18	35
All from recall	41	15	4	8
Other	9	3	5	10
TOTAL	268	99	51	100

Q. 22. For this information chunk did you get (see responses below):

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
A once over lightly?	44	16	4	8
A detailed analysis?	116	43	26	51
A specific answer?	108	40	21	41
TOTAL	268	99	51	100

Q. 23. At the time you recognized the need for this information chunk, did you want (see responses below):

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
A once over lightly?	23	9	4	8
A detailed analysis?	122	46	26	51
A specific answer?	123	46	21	41
TOTAL	268	101	51	100

Q. 24. Would you comment on the usefulness of title listings or abstracts with regard to this chunk?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Used them for this chunk	19	7	1	2
Would have found them useful	45	17	2	4
Would not have found them useful	196	73	44	86
Other	8	3	4	8
TOTAL	268	100	51	100

Q. 25. Please examine this list and tell me which was the physical layout of this chunk of information when you received it? (Interviewee was shown a list exhibiting the layouts listed below.)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Narrative text	72	27	20	39
Tables or lists	61	23	9	18
Graphics (diagrams, drawings, schematics, flow chart, graphs, maps)	15	6	4	8
Photographs	2	1	–	–
Microfilm-microfiche	–	–	–	–
Slides or motion pictures	–	–	–	–
Graphics and text	44	16	5	10
Photographs and text	1	–	–	–
Graphics and lists	3	1	–	–
Formal briefing or lecture	4	1	–	–
Group discussion	16	6	2	4
Informal briefing, with chalk or pencil drawings	2	1	–	–
Telephone conversation	31	12	7	14
Recall	5	2	4	8
Other (specify)	12	4	–	–
TOTAL	268	100	51	101

Q. 26. In what physical layout would you have wanted it?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Narrative text	73	27	22	43
Tables or lists	71	26	9	18
Graphics (diagrams, drawings, schematics, flow chart, graphs, maps)	14	5	4	8
Photographs	1	-	1	2
Microfilm-microfiche	-	-	-	-
Slides or motion pictures	-	-	-	-
Graphics and text	50	19	4	8
Photographs and text	4	1	-	-
Graphics and lists	4	1	-	-
Formal briefing or lecture	2	1	-	-
Group discussion	10	4	1	2
Informal briefing, with chalk or pencil drawings	2	1	-	-
Telephone conversation	21	8	5	10
Recall	7	3	1	2
Other (specify)	9	3	1	2
TOTAL	268	99	51	101

Q. 27. How essential was this information chunk to the task?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Absolutely essential to successful task completion	225	84	47	92
Not essential, but extremely helpful to successful task completion	34	13	3	6
Not essential, but somewhat helpful to successful task completion	2	1	1	2
Neither essential nor helpful to successful task completion	7	3	-	-
TOTAL	268	101	51	100

Q. 28. To what extent was this information chunk used in this task?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Throughout the duration of the task	139	52	38	75
In major portions of the task	87	32	9	18
In only small parts of the task	20	7	4	8
As background information	11	4	-	-
As a lead to other information	-	-	-	-
Not at all	9	3	-	-
Other	2	1	-	-
TOTAL	268	99	51	101

Q. 29. After you finished the total task, did you learn of any relevant information that was available but unknown to you while you were doing the task?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	12	9	5	19
No	117	91	21	81
TOTAL	129	100	26	100

VI-D. Use of Libraries, Information Centers, and Facilities Other Than the Savannah District Library

This series of seven questions was intended mainly to provide insights into the extent to which respondents use libraries, information centers, and facilities other than the Savanah District Library and to identify the specific other libraries, centers, and facilities that respondents have been using. The results are presented below.

Q. 30. Have you had occasion to use any libraries other than the Savannah District Library during the past year?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	43	33	6	23
No	86	67	20	77
TOTALS	129	100	26	100

Q. 31. Which libraries do you recall having used in the past year in connection with your work? (Asked of respondents who answered "yes" to Q. 30.)

Library	No. of times mentioned by Scientists and Eng.	No. of times mentioned by Other Prof. Emp.
Savannah Public Library	19	-
Georgia Inst. of Technology Library (microfilm collection mentioned in particular)	5	-
Univ. of Georgia Library	4	-
Waterways Experiment Station	3	2
Post Engineers Library (not further identified)	2	-
Cinncinnati Public Library	2	-
Armstrong State College Library	2	-
Office, Chief of Engineers Library	2	-
Clemson Univ. Library	1	-
Dept. of Commerce ("for redevelopment areas" - specific library not identified)	-	-
Library of Congress	1	-
U.S. Geological Survey Library	1	-
Lakeland, Fla., Public Library	1	-

Q. 31. (Continued)

Macon Public Library	1	-
Ohio River Division Library	1	-
Outland Research Lab. Library, Chatham County, Ga.	1	-
Purdue University Library	1	-
Waterways Experiment Station Library (specific one not identified)	1	-
Brunswick Library	-	1
Law libraries (various Federal, County, and Savannah District Law Library)	-	6

Q. 32. Do you know of any of the specialized information and data centers shown on this list? (Interviewees were shown a selected list of 62 Federally supported centers.)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes (know of one or more)	103	80	13	50
No	26	20	13	50
TOTALS	129	100	26	100

Q. 33. Have you used any of the services of these centers during the past year? (Asked of interviewees who answered "yes" to Q. 32.)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes (have used one or more)	48	47	4	15
No	55	53	22	85
TOTALS	103	100	26	100

Specific centers used	No. of times mentioned by Scientists and Eng.	No. of times mentioned by Other Prof. Emp.
U.S. Army Engineer Waterways Experiment Station Research Center	34	1
Hydraulic Engineering Information Analysis Center, U.S. Army Engineer Waterways Experiment Station	14	-
Concrete Technology Information Analysis Center, U.S. Army Engineer Waterways Experiment Station	10	2
Index of Specifications and Standards (DODISS)	13	1
Soil Mechanics Information Analysis Center, U.S. Army Eng. Waterways Exp. Station	8	-
Coastal Engineering Information Analysis Center, Coastal Research Center	8	-
Bureau of the Census	6	-
Geodesy Division, Coast and Geodetic Survey, Environmental Science Services Admin.	6	-
National Weather Records Center (NWRC) and National Geophysical Data Center (NGDC)	5	1
Defense Documentation Center (DDC)	4	-
Pavements and Soil Trafficability Information Analysis Center, U.S. Eng. Waterways Exp. Station	3	1
Oceanography Division, Coast and Geodetic Survey	3	-
National Oceanographic Data Center	2	-

(10 other centers mentioned once each)

Q. 34. Are there any centers named on this list which you think might have information of value to you in connection with your work, even though you have not yet used them? (Asked of all interviewees.)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes (indicated one or more centers)	62	48	14	54
No	67	52	12	46
TOTALS	129	100	26	100

Centers mentioned as not yet used but possibly useful	No. of times mentioned by Scientists and Eng.	No. of times mentioned by Other Prof. Emp.
Radiation Shielding Information Center, Oak Ridge National Laboratory	9	-
Seismology Division, Office of Seismology and Geomagnetism, Coast and Geodetic Survey, ESSA	9	-
Shock and Vibration Information Center, Naval Research Laboratory	9	2
Concrete Technology Information Analysis Center, U.S. Army Engineer Waterways Experiment Station	7	-
Air Pollution Technical Information Center	7	-
Hydraulic Engineering Information Analysis Center, U.S. Army Engineer Waterways Experiment Station	6	-
Soil Mechanics Information Analysis Center, U.S. Army Engineer Waterways Experiment Station	6	2
National Weather Records Center (NWRC) and National Geophysical Data Center (NGDC)	6	-
Nondestructive Testing Information Analysis Center, Army Materials and Mechanics Research Center	6	-
Geodesy Division, Coast and Geodetic Survey, Environmental Science Services Admin.	5	-

Q. 34. (Continued)

National Meteorological Center (NMC), Weather Bureau, U.S. Department of Commerce	5	-
Coastal Engineering Information Analysis Center, Coastal Research Center	4	-
Mechanical Properties Data Center, Belfour Engineering Company	4	-
Vela Seismic Information Analysis Center (Vesiac), The University of Michigan	4	-
Human Engineering Information and Analysis Service	3	3
U.S. Army Engineer Waterways Experiment Station Research Center	3	-
Oceanography Division, Coast and Geodetic Survey	3	-
Plastics Technical Evaluation Center (Plastec), Picatinny Arsenal	3	-
Defense Documentation Center (DDC)	2	-
Index of Specifications and Standards (DODISS)	2	2
Eric Counseling and Personnel Services, Information Center	2	-
Information Center for Internal Exposure, Oak Ridge Nat'l Lab.	2	-
Thermodynamic Properties of Metals and Alloys, Lawrence Radiation Lab.	2	-
Thermodynamics Research Center, Texas A & M University	2	-

(11 other centers mentioned once each)

Q. 35. Do you use any specialized information and/or data centers other than those listed?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes (indicated one or more)	49	38	11	42
No	80	62	15	58
TOTALS	129	100	26	100

Q. 36. Do you use English translations or English language abstracts of foreign literature? Name language and usual source.

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes (one or more language mentioned)	12	9	-	-
No	117	91	26	100
TOTALS	129	100	26	100

Specific source languages mentioned	No. of times mentioned by Scientists and Eng.
Russian	5
German	4
French	4
Spanish	3
Norwegian	1
Swedish	1
Danish	1
Hungarian	1

VI-E. Use of Savannah District Library

Questions 37 through 65 covered topics related to respondents' use (and non-use) of the Savannah District Library. The questions were aimed at finding out the extent of use of present service, problems encountered in utilizing the services, respondents' views on the Library's collection, and, finally, respondents' ideas on specific services that would be useful to them in connection with their work. Two separate questions were utilized to inquire into the problems each respondent has encountered in using present services and to solicit his recommendations, as may be seen in several of the following questions; however, these data were combined into a single response from each interviewee (e.g., see Q. 39 and Q. 40, below).

Q. 37. Have you used any of the facilities or any of the services of the Savannah District Library during the past year?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	103	80	12	46
No	26	20	14	54
TOTAL	129	100	26	100

Q. 38. Do you think the Library's collection of books, reports, and periodicals is adequate for your own needs in connection with your work? (Asked of interviewees who responded "yes" to Q. 37)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	66	51	9	35
No	37	29	3	11
TOTAL	129	100	26	100

Q. 39. In what ways is the collection not adequate to your needs?
Q. 40. What changes or improvements would you recommend to make the Library's collection more adequately meet your needs?

Response from Scientists and Engineers	No. of times response given
Collection out-of-date and needs to be updated	10
Needs more reference books and texts in:	
Design, mechanical, and architectural engineering	1
Structures	1
Dredging - machinery and method	1
Plastic design	1
Wood - ultimate strength design	1
Reference books in all engineering fields	3
More reference books and texts	4
Need a greater body of Corps of Engineers reference material	3
Need history and development of locale in which we are doing study	1
Need good collection of Amer. Soc. of Civil Eng. publications; proceedings	3
Get back issues of ASCE publications in microfilm or reprints	1
Should procure all new engineering reports when they come out (other Districts within Division)	3
Lack certain design reports put out by other Districts	2
Need complete collection of commercial specifications	4
Commercial standards are scattered throughout section	3
Lack complete collection of design memos of dams in U.S.	2
Lack design handbooks and reports covering specialized equipment	1
Lack reports published by Bureau of Census applicable to Savannah District	1
Need more subscriptions to Engineering News Record - can't find current issues	2
Traffic reports and studies not thoroughly covered	1
Greater range of architectural books needed and architectural periodicals	3
Indexes to journals not received	1
Specific areas of subject coverage weakness:	
Water resource development	2
Environmental resources	1
Ground water hydrology	1
Recreational use of water	1
Seismic design and general seismic literature	1
Mosquito control	1

Q. 39 and 40 (Continued)

Information on graduate schools needed	1
Information on training courses and services needed	1
Get on mailing list of area planning and development commissions throughout District	1
Need current program letting us know what is available in Library	1
Increase physical plant	1
Volume of information needed would be impossible for Library to hold. They can't cover everything. Collection will never be adequate because of the amount of current stuff continuously becoming available; each new project has new and different demands	5
Shouldn't depend on individual users to establish requirements of Library; shouldn't wait until someone wants it and then order it	1
Distance between us and the Library makes it inconvenient to borrow	1
We have acquired material for our own needs; we more or less have our own library. We need our own small collection. I only need the materials we maintain in our office	5

Responses from Other Professional Employees

Would like study material for general reading and improvement in my field	1
Need more literature on real estate	1
Acquire more books on appraisal of property	1

Q. 41. Have you encountered any problems in the organization and arrangement of the collection of books, reports, and periodicals that have made the collection difficult for you to use? (Asked of interviewees who answered "yes" to Q. 37)

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used collection in past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	21	16	1	4
No	82	64	11	42
TOTAL	129	100	26	100

Q. 42. What problems in the acquisition and arrangement of the collection have you encountered?

Responses from Scientists and Engineers	No. of times response given
Don't know where to locate things myself; have to ask librarian	11
Don't know whether we don't have something or someone has borrowed it	1
Periodicals out of chronological order	4
In browsing, I was unsuccessful in finding where what I needed was located	1
Not arranged by subject matter so I can find things	1
Single categorical shelf labeling needed to identify collection subject areas; lack of shelf labeling	2
Crowded	1
Responses from Other Professional Employees	
Regulations are not all together in the Library; some are in different sections	1

Q. 43. During the past year, have you checked out any books, reports or periodicals on loan from the Library?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	28	22	7	27
No	75	58	5	19
TOTAL	129	100	26	100

Q. 44. What problems or difficulties have you encountered in the Library's loan service? (Asked of interviewees responding "yes" to Q. 43)

Q. 45. What changes or improvements would you recommend for improving the loan service?

Responses from Scientists and Engineers	No. of times response given by Sci. & Eng.
Takes too long to get material	3
Have been accused of holding material	1
They loan out all copies of particular books; keep one copy of multiple copy books in Library	4
Books should be in Library, not in sections where we can't get at them; reports get lost in sections	3
Current issues of journals are not in Library	5
When just one copy you don't always get it	1
There are things we shouldn't have to borrow; we should keep them in our section. Let us maintain our own collection. Allow sections to retain those books they use frequently	3

Responses from Other Professional Employees

(No problems stated.)

Q. 46. During the past year, have you had the Library borrow any material for you from another library or information center on interlibrary loan?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library during past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	16	12	-	-
No	87	67	12	46
TOTAL	129	99	26	100

Q. 47. What problems or difficulties have you encountered in the inter-library loan service?
Q. 48. What changes or improvements would you recommend?

Responses from Scientists and Engineers	No. of times response given by Sci. & Eng.
Librarians too busy	1
Had to get the book myself	1
Never get adequate service	1
Timeliness	1
Think the librarians should be able to call and check with an agency	1

Q. 49. Since its installation, have you made use of the microfilm collection and the microfiche reader-printer?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	14	11	2	8
No	89	69	10	38
TOTAL	129	100	26	100

Q. 50. What problems or difficulties have you encountered in making use of the microfilm collection and the microfiche reader-printer?
Q. 51. What changes or improvements would you recommend to make the microfilm collection and the microfiche reader-printer useful to you?

Responses from Scientists and Engineers	No. of times response given by Sci. & Eng.
Makes me nervous	1
Makes my eyes blur; hard to read	2
Does not show color	1
Poor in copying; find a better printer and paper	3
Only one card can be seen at a time in reader-printer	1

Q. 50 and 51 (Continued)

Collection does not contain information I myself need; collection incomplete; order stuff from Clearinghouse that is on microfiche	3
Library should tell people about it; its good and more people should know about it; people don't know about it	6

Responses from Other Professional Employees

(No problems stated.)

Q. 52. During the past year, have you made use of the Library's card catalog?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library during past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	22	17	2	8
No	81	63	10	38
TOTAL	129	100	26	100

Q. 53. What problems or difficulties have you encountered in making use of the card catalog?

Q. 54. What changes or improvements would you recommend for making the card catalog more useful to you?

Responses from Scientists and Engineers	No. of times response given by Sci. & Eng.
Has not been useful until recently; catalog system is better now	2
Dewey Decimal is outmoded	1
Would prefer L.C. system	1
Can't go quickly from card to book on shelf; can't locate on shelf	1
Cataloging/indexing too shallow; too many cards under a term (e.g., "concrete")	4
Don't understand how to use the catalog	3
More adequate cataloging needed	1
Need a retrieval system	1
More details in indexing	1

Q. 53 and 54 (Continued)

Responses from Other Professional Employees

Couldn't find topic I was looking for	1

Q. 55. During the past year, have you had the Library perform any other services for you?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past year - Q. 37)	(26)	(20)	(14)	(54)
Yes	42	33	5	19
No	61	47	7	27
TOTAL	129	100	26	100

Q. 56. What was the particular service you requested the Library to perform?

Responses from Scientists and Engineers	No. of times response given
Requisition/order regulations, specifications, standards	10
Requisition/order handbook, manuals	5
Requested specific issues of periodicals	8
Requested subscriptions to specific journals	3
Requested help in locating particular book	4
Asked them to find information on particular subject matter	8
Asked them to locate sources of information	2
Requisition books	20
Order microfiche	1
Data on size of Tennessee River	1
Other	6

Responses from Other Professional Employees

Order handbooks and circulars	5

Q. 57. What problems or difficulties did you encounter in having this service performed?

Q. 58. What recommendation would you make for improving this kind of service?

Responses from Scientists and Engineers	No. of times response given by Sci. & Eng.
Dislike procedural aspects of requisitioning	3
Forms and procedures for requisitioning books should be simplified	5
Improve procedural methods for acquiring standards by having collection automatically updated	1
Sections not allowed to retain books pertinent to their interests	1
Need for material was questioned	1
Bickering over costs	1
I don't think I got all that was available	1
Problem in getting material I wanted from behind Iron Curtain/ problem because publisher was in England	2
Length of time it takes requisitioned books to arrive	3
No service provided in the end, so I called the public library	1
Information I wanted couldn't be found	3

Responses from Other Professional Employees

(No problems stated.)

Q. 59. Do you presently receive periodicals or other materials through the Library's routing service?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	103	80	13	50
No	26	20	13	50
TOTAL	129	100	26	100

Q. 60. What problems or difficulties have you encountered in the routing service?

Q. 61. What changes or improvements would you recommend for improving the routing service?

Responses from Scientists and Engineers	No. of time response given by Sci. & Eng.
Time lag; takes too long to get around; people hold too long; 2 months old; 3-4 months old by the time I get it	16
Too much comes to me	18
Get too much because magazines are routed to section and not to individual	2
Some come to me for which I have no need	7
Sometimes don't receive anything	1
Don't get as many as would be beneficial; route more	2
Have to subscribe myself	1
Keep current periodicals in Library	4
Have librarians act on requests to be placed on routing list	3
Librarians should make an effort to find out what periodicals individuals are interested in seeing	1
All people should be advised as to what is available; all supervisory personnel should be advised as to what is available	2
Have section head determine routing within section on basis of individual interest/need	3
Reasons for routing sequence are not clear	1
A specific routing list grew and it wasn't stuff that people should be reading on the job	1
People appropriate issues for own collections	1
Periodicals can't be located during routing; sometime issues are missing	2
Better control procedures needed	3
SDI system needed	2
Responses from Other Professional Employees	
Periodicals get held up	3
Got our own subscriptions to three journals	1
Got our own subscriptions to safety periodicals	1
Requested subscription to periodicals and was told $10.00 too expensive	1
More copies needed of each issue of some periodicals	1

Q. 62. (Interviewees were given a list of possible services which the Library might provide and were asked to indicate those services which they thought would be useful to them in their work. The results are show below.)

Possible Service	No. of Sci. & Eng. considering service "useful"	No. of Other Prof. Emp. considering service "useful"
Answers from the Library to specific requests for information	87	17
Announcements of new books, reports, and periodicals acquired by the Library	87	15
Register of libraries, information centers, information analysis centers, and other services and sources of specialized information where you might locate useful information or data	65	12
Information service on new research and development projects of interest to you	60	5
Registers of subject experts and consultants in specialized areas of interest to you	52	12
Information service on forthcoming meetings, symposia, and conferences of interest to you	51	12
Preparation of bibliographies on request	23	3

Q. 63. Do you use the Library's collection of regulations?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	67	52	15	58
No	62	48	11	42
TOTAL	129	100	26	100

Q. 64. What problems or difficulties have you encountered in using the collection of regulations?

Q. 65. What changes or improvements would you recommend for making the collection of regulations more useful to you?

Responses from Scientists and Engineers	No. of times response given
Sometimes do not have what I need	4
Needed Regulation charged out to someone else	5
Sometimes have a need for a Regulation which has not been received by the Library	2
Automatically acquire all Regulations likely to be needed; acquisition based on anticipated needs	2
Not up to date; update automatically	4
Collection incomplete in Library; scattered in different sections; consolidate	7
Lately had to go to three different places to find a Regulation I needed	1
Need an index; otherwise difficult to locate an appropriate Regulation; need a retrieval system	6
Responses from Other Professional Employees	
They say they're decentralized; very unhelpful	1
Should have complete sets in Library	1
Library should have information where each Regulation can be found	1

VI-F. Prevalence and Use of Personal and Group Collections and Files

Interviewees were asked a series of seven questions (Q. 66 - Q. 72) concerning files or collections of scientific, technical, and professional publications or of publication references maintained in their own organizational units, which they use in connection with their work. A related series of four questions pertained to the interviewee's own personal collections or files of such materials. Still another series of five questions (Q. 77 - Q. 81) pertained to such files or collections maintained in units other than the interviewee's own organizational unit, which the interviewee uses in connection with his work.

The intent of these questions was to get a general idea of the extent to which personal and unit collections exist and have been built up in the District, the nature of these collections, the extent to which individuals and units are trying to keep these collections organized, even cataloged and indexed, to facilitate their use, and like matters.

The extent and number of such collections and files turned out to be far more than originally expected. Many individuals and many organizational units even maintained several different files and collections, separated or organized in different ways, and used by themselves and many others. Thus, most of the enormous amount of data obtained could only be examined indicatively, but could not be systematically analyzed. Excepted were responses to the following three questions:

Q. 66. Does your particular organizational unit maintain any file or collection of scientific, technical, and professional publications or publication references which you use in connection with your work"

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	110	85	22	85
No	19	15	4	15
TOTAL	129	100	26	100

Q. 73. Do you personally maintain any file or collection of scientific, technical, and professional publications or publication references which you use in connection with your work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	97	75	13	50
No	32	25	13	50
TOTAL	129	100	26	100

Q. 77. Does any other organizational unit outside your own unit maintain files or collections of scientific, technical, and professional publications or publication references which you use in connection with your work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	52	40	5	20
No	77	60	21	80
TOTAL	129	100	26	100

VI-G. Users' General Information Patterns

This series of questions elicited information from each respondent regarding his general information patterns: his best means of keeping abreast of new developments in his field; keeping abreast of research and development in progress in his field; his usual approach to gathering needed background information for his work; how he obtains the publications he uses; and his problems in all these areas. The results of these questions are presented below.

Q. 82. What are your best means of becoming aware of recent research results or other new developments, products, or techniques related to your work?

Responses from Scientists & Engineers	F	%
Professional journals, newsletters, and trade publications	63	49
Through new specifications, guides, regulations, and changes to these received through official channels	17	13
Orally, through conversations with other people in my field; colleagues	11	9
Manufacturers' brochures, flyers, catalogs	11	9
Manufacturers' representatives	9	7
Professional society meetings; conferences, seminars	9	7
Newspapers	3	2
Don't know of any; inapplicable to my work, etc.	6	5
TOTAL	129	101

Responses from Other Professional Employees	F	%
Professional, technical and other periodicals	9	35
New regulations and procedures; changes received through official channels; whatever the District sends me	5	19
Orally, through conferences, meetings, briefings, contacts with colleagues	4	15
Contacts with suppliers, manufacturers, contractors	2	8
Government contractor report system	2	8
Proceedings of professional societies	1	4
Newspapers	1	4
Courses and training programs	1	4
Not applicable to my work	1	4
TOTAL	26	101

Q. 83. What problems or difficulties have you encountered in becoming aware of such new developments, products, or techniques?

Responses by Scientists & Engineers	F	%
Instead of sending information, companies send representatives who take up my time	1	1
Manufacturers' representatives don't call on us enough	1	1
Don't have time to go through all material received	12	9
Information is not timely when published	7	5
Information doesn't reach me through routing system; misrouting of journals	4	3
Non-availability of current issues of journals in library	8	6
It has taken as long as a year for information to get around to me	2	2
Meetings are useful but most are hard to attend	3	2
Have had to go outside Corps of Engineers (to ASME) to find out about research problem solved within Corps of Engineers	2	2
SDI abstracting system would help alleviate problems	4	3
Just unaware of new developments; don't know where to find it but know it must be there; don't know if I have a problem	8	6
Inapplicable to my work	6	5
No problems	71	55
TOTAL	129	100

Responses from Other Professional Employees	F	%
Distribution of periodicals requested not prompt; routing of periodicals not timely	3	12
No incentive to find new techniques; not interested	2	8
I probably have a problem that I'm not aware of	1	4
Inapplicable to my work	3	12
No problems	17	65
TOTAL	26	101

Q. 84. What are your best means of becoming aware of research and development studies or projects that are just starting up or are being carried out in government laboratories, universities, research institutions, and industrial firms?

Responses from Scientists & Engineers	F	%
Professional and technical journals, newsletters, etc.	65	50
Personal contacts with others working in my field, universities, etc.	14	11
Manufacturers' literature and manufacturers' representatives	11	9
At seminars, conferences, meetings	7	5
OCE status reports on Corps of Engineers projects	5	4
By chance, no systematic means	4	3
Corps movies	1	1
Not applicable to my work; no need; not interested	22	17
TOTAL	129	100

Responses from Other Professional Employees	F	%
Professional and technical journals, newsletters, etc.	10	38
Personal contacts with colleagues	2	8
OCE and other government reports	2	8
By chance, no systematic means	5	19
Not applicable to my work; no need	7	27
TOTAL	26	100

Q. 85. Can you describe any difficulties or problems you have been having in becoming aware of such research and development studies and projects that are in progress or are just starting up?

Responses from Scientists & Engineers	F	%
Don't get enough information on this	4	3
There is too much on this	3	2
Not timely when I learn about it; too slow	6	5
Would like to have a good source; but don't know of any	6	5
Just a lack of information and communication on this	4	3
No existing channels	2	2
Always a problem keeping up; miscellaneous responses	8	6
Inapplicable to my work	22	22
No problems	74	58
TOTAL	129	100

Q. 85. (Continued)

Responses from Other Professional Employees	F	%
Prompter distribution/routing of periodicals needed	3	12
Don't know how to find out that they're going on	2	8
Don't really try	1	4
Not applicable to my work	4	15
No problems	16	62
TOTAL	26	101

Q. 86. How do you generally go about getting background information or performing searches for information?

Responses from Scientists & Engineers	F	%
Try own files, own work unit files first	34	26
Get information from other sections	11	9
Library; card catalog; use collection; ask Librarian	18	14
Search bibliography lists; abstracts	2	2
Go to field and get it; field trip	4	3
Usually all background information is furnished with the project	4	3
Miscellaneous other responses	5	4
Don't really need background information in my work	5	4
Consult colleague knowledgeable in field	14	11
Contact manufacturers	13	10
Reference books, textbooks, manuals, etc.	11	9
Check standards, specifications, regulations	8	6
TOTAL	129	101

Responses from Other Professional Employees	F	%
Check own files; own collection in work unit	3	12
Get information from other sections	5	19
Consult colleagues, others knowledgeable in field	4	15
Check regulations, standards, specifications, etc.	5	19
Use periodicals, textbooks, reports and other publications	4	15
Miscellaneous other responses	2	8
Don't have much need	3	12
TOTAL	26	100

Q. 87. What difficulties have you encountered in gathering this background information?

Responses from Scientists & Engineers	F	%
Don't know where to locate or go to find the information; what sources should be used	21	16
Information is not available	11	9
A lot of manufacturers' data and promotional material; other kinds not available	3	2
Can't find material because someone else has it	12	9
Material out-of-date	9	7
Very minor; no specific problems	6	5
Don't really need background information in my work	5	4
No problems	62	48
TOTAL	129	100

Responses from Other Professional Employees	F	%
Time-consuming to gather the information	3	12
Hard to find where needed material is located	2	8
No specific problems	2	8
No problems; similar responses	19	73
TOTAL	26	101

Q. 88. How do you physically obtain most of the publications you need for your work?

Responses from Scientists & Engineers	F	%
Through Library loan, interlibrary loan, Library purchase for retention in work section; routing	59	46
From manufacturers	7	5
Personal subscriptions and purchases; membership in societies	17	13
Automatically received through channels	10	8
Request through channels	14	11
Miscellaneous	22	17
TOTAL	129	100

Q. 88. (Continued)

Responses from Other Professional Employees	F	%
Through District Library service	3	12
Routing	7	27
Purchase materials, periodicals myself	2	8
Requisition through channels	7	27
District Law Library	2	8
Miscellaneous responses	5	19
TOTAL	26	101

Q. 89. Have you encountered any problem in getting hold of needed publications?

Responses from Scientists & Engineers	F	%
Can't remember where I saw it - in library or work section	4	3
Lack of money for purchase	2	2
Requisition problems; difficult procedure	11	9
Not clear what Library retains	2	2
Interlibrary loan too slow	2	2
Too long to get ordered material	8	6
People hold on to loaned material too long	9	7
Foreign publications hard to obtain	2	2
Miscellaneous responses	8	6
No problems	28	22
No response	53	41
TOTAL	129	101

Responses from Other Professional Employees	F	%
Excessive delay occurs when I order something	3	12
Routing is slow getting things around	2	8
Poor communications, but usually get what I want	1	4
No problems	20	77
TOTAL	26	101

Q. 90. With respect to all the tasks you have worked on over the last year, did you have any difficulty obtaining or locating technical information needed to perform or complete these tasks?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	34	26	3	12

Q. 91. Would you explain the difficulty.

Responses from Scientists & Engineers	F
Information not available	7
Not enough information could be found	3
Information couldn't be located	4
Information identified but couldn't be obtained	5
Had to buy material myself	1
Too much time involved in searching and obtaining information	5
Information furnished but not up-to-date	2
Didn't know where to look for information needed	3
Information needed was not where it was supposed to be	3
I got so much information I couldn't use it	1
Didn't have access to a published index I needed	1
I always manage anyway; can usually find enough information to get the job done; do the best I can with information that is not as detailed or as complete as I would like	6
Responses from Other Professional Employees	
Insect control; our information is old	1
You don't know where to go to get the information you want	2

Q. 92. Can you offer a possible solution to the problem?

Responses from Scientists & Engineers	F
An information center operation with index and retrieval by subjects (and similar responses)	3
Find out more about what information people really need	1
Have OCE, Washington, maintain comprehensive library in engineering geology and ground water geology and have means of quickly distributing requested materials to all Districts. Same should be done for other disciplines	1
Library could have maps available from various planning commissions	1
Information is useful to more than one person and should automatically be maintained in the Library	1
Library wouldn't have to stock all information, but should know where to locate needed information	1
More efficiency in obtaining publications	1
Expand collections in Library	1

Responses from Other Professional Employees	
List or directory of where to find information; list of experts would help	2

SECTION VII: MAIL QUESTIONNAIRE SURVEY RESULTS

This section of the report presents detailed tabulations of the responses received to the 42 questions in the mail questionnaire distributed to 77 scientists and engineers and 129 other professional employees of the District. Many of the questions were open-ended, allowing for free answers on the part of respondents; insofar as possible, the actual words used by respondents have been retained with but minor editing to bring together in the tabulations those responses which were highly similar. In the tabular headings, F(requency) means the number of times a particular answer was given by the respondents; in some cases, the total number of answers exceeds the total number of individuals responding, indicating that multiple answers were received from some respondents. The percentages recorded in the tabulations express the relationship of the F(requency) of particular anwers to all (100%) of the answers received for a given question. Where totals for percentages exceed or fall short of 100% this has been a result of rounding.

Q. 1. What is your best means of becoming aware of recent research results on other new developments, products, and techniques related to your work?

Responses from Scientists and Engineers	F	%
Professional, technical, and trade journals	27	35
Newspapers	2	3
Professional society meetings, conferences, seminars	3	4
Manufacturers brochures, flyers, etc.	4	5
Manufacturers' representatives	3	4
Orally, through contacts with colleagues and others working in my field	3	4
Through new specifications, standards, regulations, policies, criteria	7	9
Other responses	2	3
Non-respondents	26	34
TOTALS	77	101

Responses from Other Professional Employees	F	%
Professional, technical, and other periodicals	32	25
Bulletin's from District Engineer; information received through District official channels	15	12
Manufacturers' brochures, catalogs	10	8
Orally, through discussions with colleagues and others	8	6
Training sessions and courses	7	5
Attendance at professional society meetings; seminars	5	4
Manufacturers' representatives	6	5
Newspapers	2	2
Not applicable to my work	2	2
Non-respondents	42	33
TOTALS	129	102

Q. 2. Please describe any problems you have encountered in becoming aware of or in keeping abreast of recent research results and new developments, products, or techniques related to your work.

Responses from Scientist and Engineers	F	%
Too many research papers/articles to read; not enough time to read them	7	9
Too remote from large libraries	2	3
In the field offices we don't have access to libraries and publications	3	4
Journals, research publications, technical publications not available	6	8
Difficulty finding out sources of information	2	3
Lack of adequate technical library to obtain data on interested projects	1	1
Cost of personal subscriptions and publications	1	1
Incomplete information on availability of books and periodicals related to the forest industry and land management fields at the District Library	1	1
Difficult to obtain information from manufacturers	1	1
Not being able to attend seminars	1	1
Sometimes unaware of new developments except by chance; would like to have a way to keep abreast; related responses	4	5
No problems	14	18
Non-respondents	34	44
TOTALS	77	99

Responses from Other Professional Employees	F	%
In the field we don't have access	8	6
Journals and other publications not available or not easily available	6	5
Difficulty finding sources of information	5	4
Not enough time to read all that is available	3	2
Cost of personal subscriptions	2	2
Forced to rely on supply houses and representatives	2	2
Information out-of-date; not timely	3	2
No good way to keep aware of new developments	4	3
Not applicable to my work	7	5
No problems	39	30
Non-respondents	54	42
TOTALS	129	103

Q. 3. What is your best means of becoming aware of research and development studies and projects that are just starting up or are in progress in Government laboratories, universities, research institutions, and industrial firms?

Responses from Scienctists and Engineers	F	%
Professional, technical, trade publications	21	27
Government sources: DDC Digest; OCE reports; Waterways Experiment Stations reports	4	5
Material sent to me by Library	2	3
Manufacturers' literature and representatives	4	5
Newspapers	2	3
Television	1	1
Personal contacts	5	6
Seminars, conferences of professional societies	2	3
No systematic means available to me other than accidental; no means	5	6
Don't become aware until results are published in professional journals	1	1
Non-respondents	30	39
TOTALS	77	99

Responses from Other Professional Employees	F	%
Professional and technical journals	30	23
OCE, District and other information received through channels	8	6
Professional society meetings; seminars	5	4
Contacts with colleagues	6	5
Contact with local colleges and universities	3	2
Visits to production centers	2	2
Manufacturers' publications, representatives	6	5
Newspapers	5	4
Television	1	1
No access, no means	15	12
By accident, hit or miss	3	2
Not applicable to my work	3	2
Non-respondents	42	33
TOTALS	129	101

Q. 4. Please describe any difficulties or problems you have encountered in becoming aware of research and development studies and projects that are in progress or are just starting up.

Responses of Scientists and Engineers	F	%
Not enough time	5	6
No sources within the Corps for such information; sources/means unavailable; sources too limited	6	8
Field activities lack access to resources for this kind of information	2	3
Too little contact with members of profession, especially those in basic and applied research	1	1
Good/large technical library not available to provide service	2	3
Problem is having to depend on product and engineering publications	1	1
No problems	15	19
Not applicable to my work; no need; no effort exerted along this line	3	4
Other responses	4	5
Non-respondents	38	49
TOTALS	77	99

Responses from Other Professional Employees	F	%
Don't have time	2	2
Don't know where to find out or look for this information	4	3
This kind of information is not available	8	6
Can't afford cost myself	2	2
Information outdated when received	4	3
Not aware of existence of such research and development; usually don't know	6	5
Not applicable to my work	7	5
No dependable means	17	13
No problems	37	29
Non-respondents	42	33
TOTALS	129	101

Q. 5. How do you generally go about gathering information or searching for information when you are working on or are about to start working on a task?

Responses from Scientists and Engineers	F	%
Own collection/files or those of own work unit	10	13
Get information from other sections	4	5
Check regulations, standards, specifications, etc.	6	8
Reference books, texts, manuals	6	8
Consult colleagues and other professionals working in this field	8	10
Manufacturers, engineering firms, suppliers etc.	7	9
Use District Library resources and articles	5	6
Make field surveys	1	1
Misc. replies	3	4
Non-respondents	27	35
TOTALS	77	99

Responses from Other Professional Employees	F	%
Own files or those of my work unit	8	6
Get information from other work unit's files	11	9
Consult colleagues and others working in my field	10	8
Check plans and specifications, pertinent regulations	34	26
Write or contact suppliers, manufacturers, etc.	8	6
Use textbooks, manuals	6	5
Use city library, law library, college libraries	6	5
Not applicable	4	3
Non-respondents	42	33
TOTALS	129	101

Q. 6. Please describe any problems or difficulties you have encountered in gathering background information or searching for information.

Responses from Scientists and Engineers	F	%
Some or none of information wanted is available	6	8
Card catalog not complete	1	1
Material not listed in indexes	1	1
Lack of bibliographies on current research information published by State and Federal agencies	1	1
Sources of information not known	2	3
Difficult to find which EM or EN covers a particular subject	1	1
Some references can only be borrowed from university or other libraries	3	4
Lack of access to specialized library; large library	3	4
Having necessary time	2	3
Obtaining data from manufacturer is delayed	2	3
If information cannot be obtained in Architecture Section or by contacting manufacturers, then we are at a loss; there is not very much chance it will be in District Library	2	3
Communications; conveying definitions	2	3
Other responses	2	3
Have no problems	16	20
Non-respondents	33	43
TOTALS	77	101

Responses from Other Professional Employees	F	%
Some or none of information needed is available	17	13
Information available is too restricted	2	2
Information available is outdated	8	6
Too slow, too late when information is found	3	2
Don't know sources of information	6	5
No problems	47	36
Not applicable to my work	4	3
Non-respondents	42	33
TOTALS	129	100

Q. 7. How do you physically obtain the publications you need for your work?

Responses from Scientists and Engineers	F	%
Already available in my Section	10	13
Get from other Section	5	6
Obtain through Library services; loan, routing, etc.	9	12
Personal purchase; subscription	7	9
Order from manufacturer, industrial firm, supplier, etc.	8	10
Obtain by personal correspondence	2	3
Use Savannah Public Library	1	1
On mailing lists for several publications from government source	2	3
Request through channels	4	5
Other responses	2	3
Non-respondents	27	35
TOTALS	77	100

Responses from Other Professional Employees	F	%
Requisition and receive through normal office channels	24	19
Get needed publications from other units	13	10
Publications already available in own unit; get from own collection	6	5
Order and pay for them myself	11	9
Order from manufacturers, etc.	8	6
Obtain by personal correspondence	7	5
Through District Library services	6	5
Through other libraries	4	3
Non-respondents	50	39
TOTALS	129	101

Q. 8. Please describe any problems or difficulties you have encountered in obtaining needed publications.

Responses from Scientists and Engineers	F	%
Not available	4	5
Not available when needed; obtained after the fact	3	4
Delays in receipt; slow; received months after request	4	5
Red tape in present procurement procedures	2	3
Problem getting publications from foreign countries; getting Congressional publications; out-of-print publications	3	4
Expense in subscribing to periodicals needed	1	1
Have to know exactly what you want in order to get something in the Library	1	1
Problem in locating periodicals	2	3
Incomplete information on what publications are available; know that some publications available are not referenced in card catalog	3	4
Problem locating publishers	1	1
Publications not purchased in sufficient quantities	1	1
No problems	22	29
Non-respondents	30	39
TOTALS	77	100

Responses from Other Professional Employees	F	%
Needed publications not available	14	11
Obtained too late	4	3
Outdated publications	6	5
Red tape	5	4
Time problems; delays from time of order to time of receipt	11	9
Too costly to purchase publications myself	4	3
Need a text; probably will wind up buying it myself	1	1
Don't know where information is located; where it can be obtained	3	2
No problems	31	24
Non-respondents	50	39
TOTALS	129	101

Q. 9. With respect to all of the tasks you have worked on during the past twelve months, please describe any other problems you encountered in searching for, locating, or obtaining information needed for these tasks.

Responses from Scientists and Engineers	F	%
Not knowing where to look or who to ask; not knowing where particular information can be found	3	4
Getting Forest Service publications	1	1
Information available not current	2	3
Inability to locate manufacturers of specific items; need updated sets of catalogs	2	3
Getting cooperation in obtaining information	2	3
Information not accessable to me	2	3
Bibliographies not available; problem finding list of pertinent information that is available	3	2
Index for items of interest appearing in Congressional Record of interest to Savannah District	1	1
Publications not where they are supposed to be located	2	3
Other responses	2	3
No problems/no additional problems	24	31
Non-respondents	33	43
TOTALS	77	100

Responses from Other Professional Employees	F	%
Not knowing where information is located/can be found	6	5
Information not available	11	9
Difficulty in requesting and getting publications	3	2
Time delays	4	3
Difficulty in finding sources	2	2
Not enough copies purchased	3	2
Many people keep needed publications in own collections	1	1
No additional problems	49	38
Non-respondents	50	39
TOTALS	129	101

Q. 10. Can you suggest ways of alleviating or solving any of the problems you have described.

Responses from Scientists and Engineers	F	%
Provide field office /activities with information on library services available; what publications are available; periodicals available; list of periodicals, abstracting publications and books available on quarterly or annual basis (latter response referred specifically to forestry and land management)	5	8
Obtain research publications and publish lists of these; up-to-date lists of publications available	4	5
Establish basic collection suitable for District's use; index it; get material generally used and asked for in work units; expand collection	6	8
By seeing that periodicals are available, can be located	3	4
Control over checkout of materials	1	1
District Library could have a checkout arrangement with Georgia Tech. Library	1	1
Compile a list of information sources for this general area	1	1
Installation of a master file of publications and professional magazines in the Library with duplications in sections to the extent requested	1	1
Index for Congressional information	1	1
Arrangements to attend pertinent seminars/short courses	1	1
There is no way to rush shipment of government publications	1	1
Show me how to quickly find out if what I am looking for is available in the Library	1	1
Personnel working in the Library will have to know what information they have on hand	1	1
Other responses	4	5
No recommendations	16	21
Non-respondents	29	38
TOTALS	77	98

Q. 10. (Continued)

Responses from Other Professional Employees	F	%
Set up libraries or methods of maintaining current information and publications at field offices	9	7
Publish periodically an up-to-date list/ catalog/index of what is available in Library; monthly letter giving information on what information is available and how it may be acquired -- these letters can be filed for future reference	6	5
Furnish information on sources of information	4	3
More services for field personnel	2	2
Update collection, expand collection of District Library	4	3
Simplify ordering procedures	3	2
Improve routings lists and procedures	5	4
Have a policy for Library to supply publications as requested	1	1
Have Library promptly annotate newest references to publications	1	1
Central Library with qualified personnel to see that standard specifications are kept updated	1	1
Let each section maintain its own information	2	2
Non-respondents, no suggestions	91	71
TOTALS	129	102

Q. 11. During the recent past, have you had an occasion to look for some particular scientific or technical data or other information that you needed in connection with your work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	31	40	56	43
No	19	25	31	24
Non-respondents	27	35	42	33
TOTALS	77	100	129	100

Q. 12. Specifically what was the data or information that you were looking for?

Q. 13. For what specific purposes did you need this information or data?

A major intent of the above two questions was to focus the respondent's attention on a particular information-seeking task he has had in the recent past in order to ask the next seven questions concerning his task. The responses to these two questions were not analyzed.

Q. 14. What was the first source that you used in trying to get this information? (Asked of respondents who answered "yes" to Q. 11.)

Responses from Scientists and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
Savannah District Library	4	3
Collection of publications/information in own section/branch/unit	4	6
Information/publications in another section	4	5
Personnel collection	3	4
Contacted colleagues and other knowledgeable people	4	5
Sweet's Catalog; manufacturers' literature	6	8
Specific texts, reports, journals mentioned as first source	3	4
An engineering library	1	1
North Carolina Forest Sevice	1	1
Non-respondents	27	35
TOTALS	77	99

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
Savannah District Library	5	4
Own section's collection/files	6	5
Information/publications in another section	7	5
Files in Resident Engineer's Office; field office	6	5
Personal collection	6	5
Contacted colleagues and other knowledgeable people	8	6
Manufacturer's brochures	4	3

Q. 14. (Continued)

Calls/contacts with suppliers, contractors	5	4
Law libraries	2	2
Public library	1	1
Professional associations	1	1
Specific publications mentioned	5	4
Non-respondents	42	33
TOTALS	129	102

Q. 15. What is the main reason that you used this source first?

Responses from Scientists and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no to Q. 11)	(19)	(25)
Most convenient; most readily and quickly available; availability	11	14
Only source known	3	4
This is the official source	6	8
Fountainhead for this information; experience and knowledge known	3	4
This is usual source, most likely source	6	8
Found source helpful before	2	3
Remembered hearing of publication there	1	1
Non-respondents	27	35
TOTALS	77	102

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
Most convenient, readily available	20	16
Only source known	8	6
Found reliable, complete before	3	2
Current, up-to-date sources	2	2
Proper source, channel	8	6
Most likely source	6	5
Usual source	5	4
Stepping-stone to other sources	1	1
Other responses	3	2
Non-respondents	42	33
TOTALS	129	101

Q. 16. What did you get from this source?

Responses from Scientist and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
All of the information needed	7	9
Part of the information needed	9	12
Reference to another source	5	6
Irrelevant or inappropriate information	3	4
Nothing	4	5
Out-of-date information	3	4
Non-respondents	27	35
TOTALS	77	100

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
All of the information needed	22	17
Part of the information needed	20	16
Reference to another source	3	2
Irrelevant or inappropriate information	4	3
Nothing	4	3
Sufficient for immediate need	2	2
Other	1	1
Non-respondents	42	33
TOTALS	129	101

Q. 17. How much time elapsed between the time you started trying to find this information and the time you got it?

Responses from Scientist and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
Less than 1 day	8	10
1-7 days	10	13
8-30 days	6	8
More than 30 days	3	4
Never did get the information	4	5
Non-respondents	27	35
TOTALS	77	100

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
Less than 1 day	19	15
1-7 days	7	5
8-30 days	15	12
More than 30 days	10	8
Never did get the information	5	4
Non-respondents	42	33
TOTALS	129	101

Q. 18. From the time you first started trying to find this information, was there a maximum amount of elapsed time that you could have allowed to get it?

Responses from Scientist and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
Less than 1 day	8	10
1-7 days	14	18
8-30 days	5	6
More than 30 days	3	4
Other: information would have been beneficial but not necessary	1	1
Non-respondents	27	35
TOTALS	77	99

Q. 18. (Continued)

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
Less than 1 day	12	9
1-7 days	18	14
8-30 days	10	8
More than 30 days	11	9
Other	5	4
Non-respondents	42	33
TOTALS	129	101

Q. 19. Please describe the difficulties you encountered in trying to locate and obtain this information.

Responses from Scientists and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
Material not on hand, had to be ordered; needed journals not subscribed to at that time	5	6
Lack of subject index	1	1
No bibliography/list of publications available on the subject	2	3
Could not find in Library; could find no reference in Library; unable to locate in Library; limited technical information in Library	6	8
Very few publications kept here on this subject; had to find where information could be obtained	3	4
Time consumed in locating source	3	4
Information found was not specific enough; information found was not in depth	2	3
Never did find the information	4	5
Had I restricted my search to immediate sources I might still be searching	1	1
No difficulty or very little; other	4	5
Non-respondents	27	35
TOTALS	77	100

Q. 19. (Continued)

Responses from Other Professional Employees	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
Information not at hand when needed	15	12
Others had already borrowed the material	2	2
Slow delivery	3	2
No response to my request; request forgotten; refused	4	3
Difficulty finding source of information	6	5
Information not available; not available at field level	4	3
Not up-to-date, current	5	4
Found out material was available too late	2	2
No difficulty, other	15	12
Non-respondents	42	33
TOTALS	129	102

Q. 20. Would abstracts or a listing of titles of journal articles, reports, and other publications have been useful to you when you were trying to get this information?

Responses from Scientists and Engineers	F	%
(Persons not having occasion to seek information in recent past -- "no" to Q. 11)	(19)	(25)
No	14	18
Yes	8	10
Might have been useful	6	8
Probably; if it was at hand and didn't have to be ordered; if on hand	3	4
Non-respondents	27	35
TOTALS	77	100

Responses from Other Professional Employees	F	%
(Persons not having an occasion to seek information in recent past -- "no" to Q. 11)	(31)	(24)
No	34	26
Yes	15	12
Might have been useful	7	5
Non-respondents	42	33
TOTALS	129	100

Q. 21. During the past twelve months, have you used the library collection, or the facilities, or any of the services of the Savannah District Library?

Responses Received	Scientists and Eng. F	Scientists and Eng. %	Other Prof. Emp. F	Other Prof. Emp. %
Yes	28	36	12	9
No	22	29	75	58
Non-respondents	27	35	42	33
TOTAL	77	100	129	100

Q. 22. Do you consider the District Library's collection of books, reports, and periodicals adequate for your own information needs in relation to your work? (Asked of respondents who answered "yes" to Q. 21.)

Responses Received	Scientists and Eng. F	Scientists and Eng. %	Other Prof. Emp. F	Other Prof. Emp. %
(Have not used Library in past twelve months - Q. 21)	(22)	(29)	(75)	(58)
Yes	18	23	9	7
No	10	13	3	2
Non-respondents	27	35	42	33
TOTAL	77	100	129	100

If you answered "no" to Q. 22, please explain in what ways you consider the collection inadequate.

What specific improvements would you recommend in order to make the collection adequate for your needs?

Responses from Scientists and Engineers	No. of Times Response Given
Collection inadequate in subject scope of coverage in my field and in depth of coverage within subject fields	8
Library material is antiquated	3
Need an indexing system	2
Need a record system for locating needed publications	3
Library too decentralized to be effective; should be centralized	1
Need an index at field offices for use in requesting materials from Library; need to know what the Library has	2

Q. 22. (Continued)

Insufficient collection of Corps projects, Design Memoranda, etc.; need these and a system for referencing several ways so you can find topic needed	1
Some recent sets of needed periodicals and proceedings are incomplete; need complete sets	2
Library is supposed to be maintaining a file of all standards cited by Corps of Eng. Guide Specs.; this should be maintained	1
I have my own Library to fill gaps	1
Library too small to keep number of publications necessary for coverage in my field	1
More copies of some materials needed	2

Responses from Other Prof. Emp.

Have more than 1 copy on hand	3
Unavailable to field; loan service needed	3
Very little in my field in Library	4
Obtain material on: personnel administration, management, accounting, appraising, negotiating, economics, psychology, and sociology	7
AICPA Publications needed	1

Q. 23. Please describe any problem you have encountered with regard to the organization and arrangement of the Library's collection of books, reports, and periodicals.

What changes or improvements in the organization and arrangement of the collection would you recommend?

Responses from Scientists and Engineers	No. of Times Response Given
Canvass the organization to find what they want together with innovations from other successful technical libraries	1
Classify books by LC system; departmentalize others with index-pamphlet file, microfilm, fiche, with retrieval coding system; technical reports collection not organized; best was hard copy; card catalog not authentic	1
Filing system seems inefficient	1
There must be a system where geological information can be grouped together; have material on same subject in one place	2
Don't know what all they have now	1
Some books are out on permanent loan; don't allow individuals to keep books indefinitely; recall material periodically	3
Maintain standards	1
Index needed; periodical indexing needed	2

Q. 23. (Continued)

Responses from Other Prof. Emp.

No relevant problems or recommendations given.

Q. 24. During the past twelve months, have you checked out any books, reports, or periodicals on loan from the Library?

	Scientists and Eng. F	Scientists and Eng. %	Other Prof. Emp. F	Other Prof. Emp. %
(Respondents who have not used Library in past twelve months - Q. 21)				
Yes	(22)	(29)	(75)	(58)
No	22	29	8	6
Non-respondents	6	8	4	3
	27	35	42	33
TOTAL	77	101	129	100

If you answered "yes" to Q. 24, what problems or difficulties have you encountered in using the Library's loan service?

In what ways do you believe the loan services could be improved?

Responses from Scientists and Engineers	No. of Times Response Given
Publication was difficult to locate, even with help	1
Publication couldn't be located	3
Publish list of Library's books, reports, etc. that can be borrowed	2
Field offices don't know what's available for loan	2
Many publications are not in Library, but in branches	2
People keep books indefinitely	1
Loan policies should be made	1
Periodicals in routing; subscribe to more	1

Responses from Other Professional Employees	
System for loans to field	2
Lists of what's available for loan needed	3
Give the younger men a chance to get books, etc. and coordinate them with their work	1
At my age, I don't intend to read at night	1
Copy not available; can't locate copy	2

Q. 25. During the past twelve months, have you used the Library's card catalog?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past 12 months - Q. 21)	(22)	(29)	(75)	(58)
Yes	10	13	1	1
No	18	23	11	9
Non-respondents	27	35	42	33
TOTAL	77	100	129	101

If you answered "yes" to Q. 25, what problems or difficulties have you encountered in making use of the card catalog?

What recommendations would you make for solving these difficulties?

Responses from Scientists and Engineers	No. of Times Response Given
Filing system is inefficient	1
Not authentic according to ALA standards; not up-to-date; doesn't have author, title, subject entries for each title	1
Couldn't find references to material I needed	1
Did not have material I needed	2
Publication was not under its proper subject heading	1
List everything in the collection	1
Keep it up-to-date	1
Was searching and 20 books were listed but none available; keep it up-to-date	1
Try another system; there must be some system to keep related material together	1

Responses from Other Professional Employees

None

Q. 26. During the past 12 months, have you had the Library borrow any material for you from another library or information center on interlibrary loan?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past 12 months - Q. 21)	(22)	(29)	(75)	(58)
Yes	2	3	1	1
No	26	34	11	9
Non-respondents	27	35	42	33
TOTAL	77	101	129	101

If you answered "yes" to Q. 26, what problems or difficulties have you encountered in the interlibrary loan service?

What recommendations would you make for improving the service?

Responses from Scientists and Engineers

None

Responses from Other Professional Employees

Need more information regarding the use of this service (1 response).

Q. 27. During the past 12 months, have you had the Library perform any other kinds of services for you?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library in past 12 months - Q. 21)	(22)	(29)	(75)	(58)
Yes	7	9	3	2
No	21	27	8	6
Non-respondents	27	35	42	33
TOTAL	77	100	129	99

If you answered "yes" to Q. 27, please describe the specific kinds of services the Library has performed for you?

Responses from Scientists and Engineers	No. of Times Response Given
Order publications	1
Make copies of journal articles	1
DDC search	2
Requested Library to check on some information; check on some publications	2
Obtain addresses	1
Responses from Other Professional Employees	
Research into regulations	1
Assist in locating desired reference	1
Definitions of technical terms not in dictionary	1
Many other services	1

What problems or difficulties did you encounter in having these services performed?

What recommendations would you make for improving these services?

Responses from Scientists and Engineers	No. of Times Response Given
Response (search product) from DDC was too broad	1
Library could not obtain an address I needed; have a means of direct connection with city library	1
Have a supply of 8 1/2 x 11 paper to make copies with; present paper does not cover a page from a periodical	1
Too much red tape in ordering publications	1
Delays in receiving ordered publications	1
Responses from Other Professional Employees	
If the Library is to be of use to the field personnel, some type listing or index of available material would be desirable	1

Q. 28. Since its installation, have you made use of the microfiche reader-printer?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
(Have not used Library services in past 12 months - Q. 21)	(22)	(29)	(75)	(58)
Yes	4	5	1	1
No	24	31	11	9
Non-respondents	27	35	42	33
TOTAL	77	100	129	101

If you answered "yes" to Q. 28, what problems or difficulties have you encountered in making use of the microfiche collection and the reader-printer?

What changes or improvements would you recommend for overcoming these problems or for making the microfiche collection and reader-printer more useful to you?

Responses from Scientists and Engineers	No. of Times Response Given
Indexing not adequate; improve indexing	1
Print not readable; get a better printer	1
Too noisy where the printer is located; machine not too favorable on printout	1

Responses from Other Professional Employees

None

Q. 29. Do you presently receive periodicals or other materials from the Library through its routing service?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	27	35	19	15
No	23	30	68	53
Non-respondents	27	35	42	33
TOTAL	77	100	129	101

Q. 29. (Continued)

If you answered "yes" to Q. 29, what problems or difficulties have you encountered in the routing service?

What changes or improvements would you recommend for improving the routing service?

Responses from Scientists and Engineers	No. of Times Response Given
Periodicals are usually late in routing; held too long in someone's office; not current by time I receive them	3
Number too large; can't be reviewed completely	2
Too many miscellaneous periodicals routed	1
Non-pertinent periodicals routed	2
Extend routing to field officer	1
Update periodical routing lists	1
Just because a publication is available, don't send it out - screen them	1
Occasionally change routing sequences so those appearing last on slip may receive periodical sooner	1
Make periodical available in each section for a period; do not route through every person	1
Responses from Other Professional Employees	
More routing of periodicals needed	2
Didn't know of this service until this morning	1
Didn't know this was a Library service	1
Route 2 copies so it won't take so long to get around	1

Q. 30. Do you use the Library's collection of Regulations?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	19	25	16	12
No	31	40	71	55
Non-respondents	27	35	42	33
	77	100	129	100

Q. 30. (Continued)

If you answered "yes" to Q. 30, what problems or difficulties have you encountered in using the collection of Regulations?

What changes or improvements would you recommend for making the collection of Regulations more useful to you?

Responses from Scientists and Engineers	No. of Times Response Given
Difficult reading one with numerous changes; better method for posting changes - cut, paste	1
Encourage people to use Regulations in the Library whenever possible	1
Shorter loan period would help	1
Regulations not a complete set; where are the rest located?	2
Keep extra copies	1
Furnish an index; index will keep you aware of what exists	3
Make available to field	2
Index to Congressional Record needed	1
Responses from Other Professional Employees	
Only 1 person can locate any regulation, others don't know	1
Not available, out on loan	2
Change loan time - maximum 2 days	1
Need list of regulations held	6
Get complete set in library	1
Don't know when changes occur	1

Q. 31. Are there any other problems not yet discussed in this questionnaire that you have encountered in making use or trying to make use of the Library's collection, facilities, and services? Please describe these problems below.

What changes or improvements would you recommend for alleviating or solving these problems?

Responses from Scientists and Engineers	No. of Times Response Given
Not familiar with services of Library; with what is available	1
Not familiar with procedures for making use of Library	1
Library is not accessible/easily accessible	2

Q. 31. (Continued)

Should have a time limit set on loan of engineering books; time limit on loans	3
Don't use Library because 4 years ago I couldn't get help so don't try	1
Install master collection of publications and periodicals in Library; duplicates in sections as required for convenience and use	1
Certain references, texts, etc. needed in offices on containing basis; should not be Library documents	1
Make services available to field activities	2
Provide standards in Library; make a list available in each section	1

Responses from Other Professional Employees

Not aware exactly of what services are available; what the library can do for me	8
Not familiar with contents of Library; no way of knowing	7
Send out lists of new books	3
How do I borrow books?	1
Library catalog or card index not available to field	2
New employees and old should be briefed on Library	1

Q. 32. (Respondents were provided a list of possible Library services and were requested to indicate those which they believed would be useful to them in connection with their work. Results are shown below.)

Possible Products and Services	No. of Scientists and Eng. Considering Service useful	No. of Other Prof. Emp. Considering Service useful
Answers from the Library to specific requests for information	25	40
Preparation of bibliographies on request	15	8

Q. 32. (Continued)

Registers of subject experts and consultants in specialized areas of interest to you	18	27
Information service on new research and development projects of interest to you	26	35
Information service on forthcoming meetings, symposia, and conferences of interest to you	18	21
Register of libraries, information centers, and other services and sources of specialized information where you might locate useful information or data	23	33
Announcements of new books, reports, and periodicals acquired by the library	30	43
Other services suggested:		
Index/catalog of Library material by category	1	2
List of abstract books acquired by District Library covering information of interest to offices	1	-

Q. 33. Please list below the names of libraries, special information centers, or other information facilities and services that you have used (other than the Savannah District Library) during the past year in connection with your work.

Library/Center	No. of Times Mentioned by Scientists and Eng.	No. of Times Mentioned by Other Prof. Emp.
Savannah Public Library	8	7
Georgia Inst. of Tech. Library	3	-
Univ. of Georgia Library	3	-
Waterways Experiment Station	2	-
Armstrong State College Library	2	1
Office, Chief of Engineers	2	-
Chatham County Library	1	-
Defense Documentation Center	1	-
Duke Univ., Foresty Dept. Library	1	-
Georgia Southern Library	1	-

University of Illinois Library	1	-
Library of Congress	1	-
North Carolina State Univ., Forestry Dept. Library	1	1
Smithsonian Institution (not further identified)	1	1
Southern Pines Public Library	1	-
Duke District Library	1	-
City of Tulsa Library	1	-
Richland County Tech. School Library	-	2
University of South Carolina Library	-	1
North Carolina Law Library	-	2
Chatham County Courthouse Library	-	2
Library of Air Force Civil Engineers, RAFB	-	3
Coleman Library, LaGrange, Georgia	-	4
Public Libraries in Albany, Cary City, Raleigh, Valdosta	-	8
Technical Library, Fort Bragg	-	3
Post Engineers Library, Ft. Gordon	-	3

Q. 34. Are there any other libraries, centers, facilities, or services that you think might be sources of information which would be useful to you in your work? Please list these below, even though you may not have used them as yet.

Libraries/Centers	No. of Times Mentioned by Scientists and Eng.	No. of Times Mentioned by Other Prof. Emp.
Georgia Inst. of Tech. Library and Architectural Library	3	-
Univ. of Georgia Library	3	2
Auburn University Library	1	-
John Crerar Library	1	-
Univ. of Miami Library	1	-
NASA (data acquistion, signal conditions, logging)	1	-
U.S. Navy (lubricating oils; specific library not identified)	1	-
North Carolina State University Library (Raleigh)	1	6
Oklahoma Library	1	-
State Geological Surveys	1	-
Stanford Univ. Library	1	-
Texas A. and M. Library	1	-
Vanderbilt Univ. Library	1	-
Waterways Experiment Station	1	-
Savannah State College Library	-	1

Q. 34. (Continued)

Clemson University Library	-	1
Richland County Tech. School Library	-	5
Robins AFB Library	-	2
Duke University Library	-	2
A source for USDA publications and state experiment publications	-	1

Q. 35. Do you use English translations or English language abstracts of foreign literature pertaining to your work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Yes	8	10	0	0
No	42	55	87	67
Non-respondents	27	35	42	32
TOTALS	77	100	129	99

Foreign Country/language	No. of Times Mentioned by Scientists and Eng.	No. of Times Mentioned by Other Prof. Emp.
French	4	-
German	2	-
Japanese	2	-

Usual Sources of Translations or Abstracts

Scientists and Engineers:
Mentioned only Environmental Science Services Administration (Meteorological and hydrographical information) and U.S. Navy in connection with oceanographic and hydrographic information)

Other Professional Employees:
None.

Q. 36. Are there any foreign countries in which you are especially interested because there is work going on there which is directly relevant to your own work in the Savannah District?

Responses form Scientists and Engineers	Nature of Related Work
USSR	Soil mechanics
Japan	Hydraulic turbine performance
New Zealand	Destratification of lakes and reservoirs
Pakistan	Tarbela Dam Project

Responses from Other Professional Employees

None

Q. 37. In what year were you born?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
Before 1910	6	8	21	16
1911-1920	5	6	28	22
1921-1930	20	26	30	23
1931-1940	14	18	7	5
After 1940	5	6	1	1
Non-respondents	27	35	42	33
TOTALS	77	99	129	100

Q. 38. How may technical personnel do you supervise:

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
None	22	29	61	47
1-10	23	30	15	12
Over 10	5	6	11	9
Non-respondents	27	42	42	33
TOTALS	77	100	129	101

Q. 39. Highest degree held.

	Scientists and Eng.	
	F	%
No degree held	11	14
Bachelor's	35	45
Master's	4	5
Non-respondents	27	35
TOTALS	77	99

Q. 39. Year of Highest Degree.

	Scientists and Eng.	
	F	%
(No degree)	(11)	14
Before 1945	5	6
1945-1954	15	19
After 1954	19	25
Non-respondents	27	35
TOTALS	77	99

Q. 40. How long have you been doing your present kind of work?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One year or less	2	3	4	3
1-5 years	22	29	25	19
Over 5 years	26	34	58	45
Non-respondents	27	35	42	33
TOTALS	77	101	129	100

Q. 41. How long have you been employed by the Savannah District?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
One year or less	4	5	8	6
1-5 years	30	39	42	33
6-10 years	7	9	14	11
11-20 years	6	8	10	8
Over 20 years	3	4	13	10
Non-respondents	27	35	42	33
TOTALS	77	100	129	101

Q. 42. What is your present GS rating?

	Scientists and Eng.		Other Prof. Emp.	
	F	%	F	%
GS 5-10	12	16	57	44
GS 11	14	18	22	17
GS 12	19	25	7	5
GS 13	4	5	1	1
GS 14	0	0	0	0
GS 15	1	1	0	0
Non-respondents	27	35	42	33
TOTALS	77	100	129	100

SECTION VIII: PROFILING RESULTS

As described in Section II of this report, two questionnaires, a Broad Profile Questionnaire and a Detailed Profile Questionnaire, were used in the developing of profiles of the subject interests of the professional employees. Copies of the two questionnaires are included in this report as Appendix II and Appendix III, respectively.

The aim of the Broad Profile Questionnaire was to have respondents indicate just the broad subject areas which are of importance to them in connection with their work. The results of this questionnaire were to be used for three purposes: (1) to construct an overall subject interest profile for the entire Savannah District; (2) to construct overall subject interest profiles for the various units in the organizational structure of the District; and (3) to focus on those major areas of importance to individuals and, subsequently, obtain more detailed information concerning individuals' interests through the Detailed Profile Questionnaire.

The subject interest profiles for some of the individual professional employees of the District and the organizational unit profiles, constructed through a grouping and analysis of the responses received from 293 individuals, do not appear in this report, because they are bulky and applicable only to the Savannah District. However, the overall subject interest profile for the entire Savannah District has been included, since, for comparison purposes, this might be of more widespread interest.

Overall Subject Interest Profile for the Savannah District

The overall profile is given first, below, as three separate listings: Group 1, subject areas which 50 or more individuals indicated to be important to them in connection with their work; Group 2, subject areas which 21 to 49 persons indicated to be important to them in connection with their work; Group 3, subject areas which 7 to 20 persons indicated to be important to them in connection with their work.

Group 1

Construction equipment, materials and supplies
Civil engineering
Structural engineering
Safety engineering
Administration and management
Cost effectiveness
Personnel selection, training and evaluation
Air conditioning, heating, lighting, and ventilating
Metals
Adhesives and Seals
Corrosion and degradation
Computers
Pumps, filters, pipes, tubing, and valves
Soil mechanics
Wood and paper products
Coatings, colorants, and finishes
Miscellaneous materials
Ceramics, refractories, and glasses
Plastics
Mathematics and statistics
Hydraulic and pneumatic equipment
Couplings, fasteners, and joints
Solvents, cleaners, and abrasives
Rubbers
Economics
Geology and mineralogy
Laboratories, test facilities, and test equipment
Composite materials
Forestry

Group II

Mechanics
Hydrology and limnology
Fluid mechanics
Machinery, tools, and industrial equipment
Fibers and textiles
Oils, lubricants, and hydraulic fluids
Recording devices
Electronic and Electrical Engineering
Psychology
Ground transportation equipment

Acoustics
Air facilities
Human factors engineering
Radiation shielding and protection
Research (on methods and equipment)
General concepts (on methods and equipment)
Agronomy and horticulture
Fuels
Hygiene and sanitation
Protective equipment
Electricity and magnetism
Escape, rescue, and survival
Marine engineering
History, law, and political science
Information theory
Communications
Information sciences
Combustion and ignition
Agricultural economics
Industrial processes
Geography
Seismology
Components
Medical equipment and supplies
General engine concepts

Group III

Subsystems (Electronics, electrical engineering)
Thermodynamics
Wave propagation
Meteorology
Telemetry
Power sources (non-propulsion energy conversion)
Operations research
Navigation and guidance
Agricultural engineering
Snow, ice and permafrost
Reliability (methods and equipment)
Magnetic detection
Reciprocating engines
Electric propulsion
Environmental biology
Sociology

Biology
Physical and general chemistry
Radioactivity
Engine components
Life support
Chemical, biological, and radiological operations
Acoustic detection
Radar detection
Nuclear warfare
Masers and lasers
Aircraft
Physical oceanography
Conversion techniques
Defense (military sciences)
Missile launching and ground support
Radiobiology
Toxicology
Weapon effects
Mining engineering
Logistics
Radioactive wastes and fission products
Jet and gas turbine engines
Atmospheric physics
Food (biological and medical sciences)
Geodesy
Containers and packaging
Direction finding
Nuclear instrumentation
Ammunition, explosives, and pyrotechnics
Infrared and ultraviolet detection
Chemical engineering
Inorganic chemistry
Organic chemistry
Radio and radiation chemistry
Biological oceanography
Energy storage
Geometric forms
Seismic detection
Optics
Bioengineering
Geochemistry

The overall profile is next arranged, below, in broad Subject Category Fields (in accordance with the COSATI Subject Category Fields and Groups, as modified and presented in Thesaurus of Engineering and Scientific Terms). The subject headings listed under each broad category (e.g., Aeronautics), have been assigned a number (1), (2), or (3), corresponding to the three lists given above and showing to which list each subject heading belongs.

Aeronautics
- (1) -
- (2) Air facilities
- (3) Aircraft

Agriculture
- (1) Forestry
- (2) Agricultural economics
  Agronomy and horticulture
- (3) Agricultural engineering

Atmospheric sciences
- (1) -
- (2) -
- (3) Atmospheric physics
  Meteorology

Behavioral and social sciences
- (1) Administration and management
  Economics
  Personnel selection, training, and evaluation
- (2) Information sciences
  History, law, and political science
  Human factors engineering
  Psychology
- (3) Sociology

Biological and medical sciences
- (1) -
- (2) Escape, rescue, and survival
  Hygiene and sanitation
  Medical equipment and supplies
  Protective equipment
- (3) Bioengineering
  Biology
  Environmental biology

Food
Life support
Radiobiology
Toxicology
Weapon effects

Chemistry
(1) -
(2) -
(3) Chemical engineering
Inorganic chemistry
Organic chemistry
Physical and general chemistry
Radio and radiation chemistry

Earth sciences and oceanography
(1) Geology and mineralogy
Soil mechanics
(2) Geography
Hydrology and limnology
Seismology
(3) Biological oceanography
Geochemistry
Geodesy
Mining engineering
Physical oceanography
Snow, ice and permafrost

Electronics and electrical engineering
(1) Computers
(2) Components
Electronic and electrical engineering
Information theory
(3) Subsystems
Telemetry

Nonpropulsive energy conversion
(1) -
(2) -
(3) Conversion techniques
Power sources
Energy storage

Materials
(1) Adhesives and seals
Ceramics, refractories, and glasses
Coatings, colorants, and finishes
Composite materials
Metals
Miscellaneous materials
Plastics
Rubbers
Solvents, cleaners, and abrasives
Wood and paper products
Corrosion and degradation
(2) Fibers and textiles
Oils, lubricants, and hydraulic fluids
(3) -

Mathematical sciences
(1) Mathematics and statistics
(2) -
(3) Operations research

Mechanical, industrial, civil, and marine engineering
(1) Air conditioning, heating, lighting, and ventilating
Civil engineering
Construction equipment, materials, and supplies
Couplings, fasteners, and joints
Hydraulic and pneumatic equipment
Pumps, filters, pipes, tubing, and valves
Safety engineering
Structural engineering
(2) Ground transportation equipment
Industrial processes
Machinery, tools, and industrial equipment
Marine engineering
(3) Containers and packaging

Methods and equipment
(1) Cost effectiveness
Laboratories, test facilities, and test equipment
(2) Recording devices
Research
General concepts
(3) Reliability
Geometric forms

Military sciences
(1) -
(2) -
(3) Chemical, biological, and radiological operations
Defense
Logistics
Nuclear warfare

Missile technology
(1) -
(2) -
(3) Missile launching and ground support

Navigation, communications, detection, and countermeasures
(1) -
(2) Communications
(3) Acoustic detection
Direction finding
Infrared and ultraviolet detection
Magnetic detection
Navigation and guidance
Radar detection
Seismic detection

Nuclear science and technology
(1) -
(2) Radiation shielding and protection
(3) Nuclear instrumentation
Radioactive wastes and fission products
Radioactivity

Ordnance
(1) -
(2) -
(3) Ammunition, explosives, and pyrotechnics

Physics
(1) -
(2) Acoustics
Electricity and magnetism
Fluid mechanics
Mechanics
(3) Masers and lasers
Optics
Thermodynamics
Wave propagation

Propulsion, engines, and fuels
(1) -
(2) Combustion and ignition
Fuels
General engine concepts
(3) Electric propulsion
Jet and gas turbine engines
Reciprocating engines
Engine components

Publications of Importance to Professional Employees

In the questionnaires, as part of the profiling procedures, respondents were also asked to list the most important journals, including abstracting and indexing publications, which they see regularly in connection with their work. From responses to this question, a study by-product was prepared: Listings of (1) primary journals of importance, (2) secondary publications of importance, and (3) other sources of information of importance to the professional employees. These listings follow here. The primary journals are listed in frequency order, according to the number of times each was mentioned by the individuals responding.

Primary Journals of Importance to Professional Employees

Engineering News-Record
Civil Engineering
Journal of the American Concrete Institute
Appraisal Journal
Forest Farmer
Journal of Forestry
Power
Electrical World
Grist
Park Maintenance
American Society of Civil Engineering, Journal of the Structural Division
Engineering Journal
Engineering News
Georgia Game and Fish
Mechanical Engineering

Architectural Record
ASHRAE Journal
Building Construction
Construction Methods & Equipment
Contractors and Engineers Magazine
Heating, Piping and Air Conditioning
Landscape Architecture
National Safety News
Power Engineering
The Professional Engineer
Public Works
Actual Specifying Engineer
AISC News
Air Conditioning, Heating and Refrigeration News
American Forests
American Society of Civil Engineers, Journal of Engineering Mechanics
American Society of Civil Engineering, Journal of Soil Mechanics and Foundations
Architectural and Engineering News
Computers and Automation
Economic Geology & The Bulletin of the Society of Economic Geologists
Electrical Construction and Maintenance
Fire Control Notes

Primary Journals of Importance to Professional Employees (Continued)

Gas Journal
Geotimes
Guideline
Hydraulics and Pneumatics
Military Engineer
Plant Engineering
Pulp & Paper
The Real Estate Appraiser
"Right of Way"
The Safety Journal
Southeastern Geology
Southern Lumberman
Structural Engineer
Time Saver
Water & Wastes Engineering
Water Resources Bulletin
Wood Preserving News

Agricultural Engineering
American Library Association Bulletin
American Society of Civil Engineers, Journal of Hydraulics Division
American Society of Civil Engineering, Journal of Waterways and Harbors
Appraisal Digest
Architectural Forum
Case & Comment
Chemical Engineering
Congressional Record
Construction
Control Engineering
Data Management
Datamation
Doane's Agricultural Report
Engineer
Federal Register
Field and Stream
Fire Engineering
Forest Industries
Geological Society of America Bulletin
Geological Survey, Bulletin

Primary Journals of Importance to Professional Employees (Continued)

Georgia Agricultural Research
Ground Water
Industrial Water Engineering
JAG Journal
Journal of Geology
Journal of the Prestressed Concrete Institute
Law Review
Military Law Review
National Wildlife
Progressive Architecture
Pulpwood Production and Saw Mill Logging
Safety News
Science and Technology
Shore and Beach
Soil Mechanics and Foundation Engineering
South Carolina Wildlife
Southern Outdoors
Special Libraries
Trends
Water & Sewage Works
Water Newsletter and Research and Development News
Water Power
Water Resources Research
World Dredging & Marine Construction

Secondary Periodicals

Abstracts of North American Geology
Announcement of Water Resources Reports Released for Public Inspection
Applied Science and Technical Index
Cumulative Book Index
Engineering Index
Forest Products Laboratory, List of Publications
The Geology and Mineral Resources of Georgia, Publications
Military Specifications and Sources
Monthly Catalog of United States Government Publications
New Technical Books
Public Health Engineering Abstracts
Sweet's Catalog Service
Technical Abstract Bulletin
U. S. Army Engineer Waterways Experimental Station, List of Publications Available for Purchase
U. S. Government Research Reports Index
Water Resources Abstracts

Other Sources

Alabama Dept. of Mines, Mining and Geology
American Society for Testing and Materials
Florida Dept. of Mines, Mining and Geology
Georgia Agricultural Experiment Station Publications
Georgia Dept. of Mines, Mining and Geology
North Carolina Dept. of Mines, Mining and Geology
Portland Cement Association
South Carolina Dept. of Mines, Mining and Geology
Southeastern Forest Experiment Station
U. S. Dept. of Interior, Geological Survey, Annual Report

SECTION IX: DISCUSSION OF SURVEY INSTRUMENTS

One of the aims of this study was to develop questionnaires which organizations similar to the Savannah District might be able to make use of in gathering data to describe their own user populations, determine their informational problems and requirements, and prepare subject interest profiles. These questionnaires were to be developed for self-administration and not to require the use of face-to-face interviews.

Toward this end, three questionnaires were developed and utilized in the present survey and, through this process, were also tested and evaluated from the standpoint of their utility and their applicability to environments other than the Savannah District. The three questionnaires are as follows:

Mail Questionnaire (See Appendix I)

Broad Profile Questionnaire (See Appendix II)

Detailed Profile Questionnaire (See Appendix III)

With regard to the Mail Questionnaire, two of the questions (Q. 9 and Q. 10) produced responses which in general were merely repetitious of responses received to several more specific questions dealing with users' informational problems. It will be noted that the topic of routing of periodicals as a Library service, required special handling (see Q. 21 thru Q. 29) because, during the pretesting of the questionnaire, it appeared that many of the respondents did not think of this as a Library service. One three-part question (Q. 22) deals with the respondent's view of the adequacy of the Library's collection in relation to his needs; the very general term "adequacy" was adopted purposely because, during the early pretesting it was discovered that a more detailed inquiry on this topic (scope of subject matter in the collection, currency of the collection, etc.) was simply feeding leading questions to the respondent. In one multi-part question (Q. 32), respondents were asked to indicate, among several possible Library services, which areas would be useful to them in connection with their work. Then, respondents were to rank the services they had checked ("1," most useful; "2," second most useful, etc.). The instructions for this second step, the ranking procedure, were apparently overlooked by many respondents.

With regard to the Broad Profile Questionnaire, this instrument could be improved by adding spaces at the end of the list of Subject Category Fields with an appropriate instruction for respondents to add to the list any other fields or headings of interest to them which they do not believe are covered in the list as given.

The Detailed Profile Questionnaire achieved mixed results. On the one hand, the lists of detailed COSATI subject headings attached to the questionnaire for respondents to review were too lengthy in many cases; the overall quality of the responses was very uneven, so analysis of the responses was abandoned. The profiles were prepared, however, on the basis of responses received to the Broad Profile Questionnaire, so that the Library staff would have a working tool for further experimentation and development of more refined profiles. On the other hand, one question which inquired into specific reading matter of importance to respondents worked out very satisfactorily. The question might be made more effective by splitting it into three parts: the first part dealing with journals, the second dealing with abstracting and indexing publications, and the third dealing with other sources of information important to the respondents.

Organizations similar to the Savannah District who are planning to make use of the instruments developed during the present study must first pretest the questions on a sample of their own populations to ensure that each question is applicable and appropriately worded for the user environment. Furthermore, it is recommended that such organizations not attempt to conduct a survey of their users as an in-house project. There are several reasons for this recommendation. One major reason is the importance of guaranteeing respondents anonymity - that frank responses from users will not be divulged or used in any way to evaluate a particular individuals's attitude or performance. This need was clearly recognized in the Savannah District, where a special announcement was prepared and disseminated to inform individuals of this (see Appendix IV, District Circular No. 70-1-4). Moreover, it is believed that greater objectivity in the interpretation of survey results and formulation of recommendations will be realized if the work is carried out by a detached and disinterested party.

PLEASE DO NOT WRITE IN THIS SPACE

March 28, 1969

LIBRARY USER NEEDS SURVEY

Indiv. Survey No. _____

Savannah District, Corps of Engineers

Date Questionnaire Distributed: _____

Savannah, Georgia

Date Questionnaire Returned: _____

Questionnaire Processed by: _____

(Contract No. DACW21-69-C-0013)

MAIL QUESTIONNAIRE

INSTRUCTIONS TO RESPONDENT

1. District Circular No. 70-1-4, 25 February 1969, outlined the background and aims of the Library User Needs Survey being conducted for the development of the District's Model Technical Library. As described in the Circular, the survey approach and methodology entails personal interviews with a randomly-selected group of District employees to gather data on their information use patterns and their information problems and needs. Similar data are being collected through a mail questionnaire distributed to other District employees.

2. You have been selected as one of the recipients of this mail questionnaire. Your cooperation in completing and returning this questionnaire is greatly appreciated.

3. In filling out the questionnaire, please read each question with care and record your answer in the space provided. All of your responses will be held in strictest confidence.

4. Please return your completed questionnaire not later than:

5. Completed questionnaire should be returned to the District Library, ATTN: LIBRARY USER NEEDS SURVEY.

6. Questions regarding procedures may be directed to Walter Schaaf, ADPC.

Your Name: _____
Last First Middle Initial

Your Civil Service Job Title: _____

Your Specific Organizational Unit: _____

PART I: GENERAL INFORMATION PATTERNS

1. What are your best means of becoming aware of recent research results or other new developments, products, or techniques related to your work?

2. Please describe below any problems or difficulties you have encountered in becoming aware of or in keeping abreast of recent research results or other new developments, products, and techniques.

3. What are your best means of becoming aware of research and development studies and projects that are just starting up or are in progress in government laboratories, universities, research institutions, and industrial firms?

4. Please describe below any difficulties or problems you have encountered in becoming aware of research and development studies and projects that are in progress or are just starting up.

5. How do you generally go about gathering information or performing searches for information when you are working on or are about to start working on a task?

6. Please describe below any problems or difficulties you have encountered in gathering background information or performing searches for information.

7. How do you physically obtain the publications you need for your work?

8. Please describe below any problems or difficulties you have encountered in obtaining needed publications.

9. With respect to all of the tasks you have worked on during the past twelve months, please describe any other problems you encountered in searching for, locating, or obtaining information needed for these tasks.

10. Can you suggest ways of alleviating or solving any of the problems you have described in the foregoing series of questions?

PART II: SPECIFIC INFORMATION-GATHERING TASK

11. During the recent past, have you had an occasion to look for some particular scientific or technical data or information that you needed in connection with your work?

☐ Yes ☐ No (Skip to Question 21)

12. Specifically what was the data or information that you were looking for?

_____

_____

13. For what specific purpose(s) did you need this information or data?

_____

_____

14. What was the first source that you used in trying to get this information (i.e., person or organization consulted; specific library or information center or other facility used; or reference tool used)?

_____

_____

15. What is the main reason that you used this source first?

_____

_____

16. What did you get from this first source? (check one)

☐ (a) All the information needed
☐ (b) Part of the information needed
☐ (c) Reference to another source
☐ (d) Irrelevant or inappropriate information
☐ (e) Nothing
☐ (f) Other (please specify) _____

17. How much time elapsed between the time you started trying to find this information and the time you got it?

☐ (a) Less than 1 day
☐ (b) 1 to 7 days
☐ (c) 8 to 30 days
☐ (d) More than 30 days
☐ (e) Not applicable (please explain) _____
_____

18. From the time you first started trying to find this information, was there a maximum amount of elapsed time that you could have allowed to get it?

☐ (a) Less than 1 day
☐ (b) 1 to 7 days
☐ (c) 8 to 30 days
☐ (d) More than 30 days
☐ (e) Not applicable (please explain) _____
_____

19. Please describe the difficulties you encountered in trying to locate and obtain this information.

_____

_____

20. Would abstracts or a listing of titles of journal articles, reports, and other publications have been useful to you when you were trying to get this information?

_____

PART III: USE OF SAVANNAH DISTRICT LIBRARY

21. During the past twelve months, have you used the library collection, the facilities, or any of the services of the Savannah District Library?

☐ Yes ☐ No (Skip to Question 29.)

22. Do you consider the District Library's collection of books, reports, and periodicals adequate for your own information needs in relation to your work?

☐ Yes ☐ No

If you answered "no" to Question 22., please explain in what ways you consider the collection inadequate.

What specific improvements would you recommend in order to make the collection adequate for your needs?

23. Please describe any problems you have encountered with regard to the organization and arrangement of the Library's collection of books, reports, and periodicals.

What changes or improvements in the organization and arrangement of the collection would you recommend for alleviating or solving these problems?

24. During the past twelve months, have you checked out any books, reports, or periodicals on loan from the Library?

☐ Yes ☐ No

If you answered "yes" to Question 24., what problems or difficulties have you encountered in using the Library's loan service?

In what ways do you believe the loan service could be improved?

25. During the past twelve months, have you used the Library's card catalog?

☐ Yes ☐ No

If you answered "yes" to Question 25., what problems or difficulties have you encountered in making use of the card catalog?

What recommendations would you make for solving these difficulties?

26. During the past twelve months, have you had the Library borrow any material for you from another library or information center on interlibrary loan?

☐ Yes ☐ No

If you answered "yes" to Question 26., what problems or difficulties have you encountered in the interlibrary loan service?

What recommendations would you make for improving the interlibrary loan service?

27. During the past twelve months, have you had the Library perform any other kinds of services for you?

☐ Yes ☐ No

If you answered "yes" to Question 27., please describe the specific kinds of services the Library has performed for you.

What problems or difficulties did you encounter in having these services performed?

What recommendations would you make for improving these library services?

28. Since its installation, have you made use of the microfiche collection and the microfiche reader-printer?

☐ Yes ☐ No

If you answered "yes" to Question 28., what problems or difficulties have you encountered in making use of the microfiche collection and the reader-printer?

What changes or improvements would you recommend for overcoming these problems or for making the microfiche collection and reader-printer more useful to you?

29. Do you presently receive periodicals or other materials from the Library through its routing service?

☐ Yes ☐ No

If you answered "yes" to Question 29., what problems or difficulties have you encountered in the routing service?

What changes or improvements would you recommend for improving the routing service?

30. Do you use the Library's collection of Regulations?

☐ Yes ☐ No

If you answered "yes" to Question 30., what problems or difficulties have you encountered in using the collection of Regulations?

_____

_____

What changes or improvements would you recommend for making the collection of Regulations more useful to you?

_____

_____

31. Are there any other problems not yet discussed in this questionnaire that you have encountered in making use or trying to make use of the Library's collection, facilities, and services? Please describe these problems below.

_____

_____

What changes or improvements would you recommend for alleviating or solving these problems?

_____

_____

32. Below is a list of several different kinds of information products and services which you might find useful or of value in connection with your work. Please check those products and services which you believe would be useful to you personally; then rank the products and services you have checked by assigning a "1" to the product or service you think would be most useful; a "2" to the one you think would be second most useful; etc.

Product or Service	Useful	Rank
(a) Answers from the Library to specific requests for information		
(b) Preparation of bibliographies on request		
(c) Registers of subject experts and consultants in specialized areas of interest to you		
(d) Information service on new research and development projects of interest to you		
(e) Information service on forthcoming meetings, symposia, and conferences of interest to you.		
(f) Register of libraries, information centers, information analysis centers, and other services and sources of specialized information where you might locate useful information or data.		
(g) Announcements of new books, reports, and periodicals acquired by the library		
(h) Other (Please add below any other services that would be useful to you)		
(1) _____		
(2) _____		

PART IV: USE OF OTHER LIBRARIES, INFORMATION CENTERS, AND SERVICES

33. Please list below the names of any libraries, special information centers, or other information facilities and services that you have used (other than the Savannah District Library) during the past year.

_____

_____

_____

_____

34. Are there any other libraries, centers, facilities, or services that you think might be sources of information which would be useful to you in your work? Please list these below, even though you may not have used them as yet.

_____

_____

35. Do you ever use English translations or English language abstracts of foreign literature pertaining to your work?

☐ No

☐ Yes (Please indicate languages and sources below)

Foreign Language or Country	Your Usual Source of English Translation or Abstract
_____	_____
_____	_____
_____	_____

36. Are there any foreign countries in which you are especially interested because there is work going on there which is directly relevant to your own work in the Savannah District?

☐ No

☐ Yes (Please identify countries and nature of work below)

Foreign Country	Nature of Work in Which You Are Interested
_____	_____
_____	_____

PART VI: RESPONDENT'S PERSONAL DATA

37. In what year were you born? _____

38. How many technical personnel do you supervise (exclude secretaries, clerks, equipment operators, and laborers)? _____

39. Please indicate below any college degree(s) that you hold, the year(s) obtained, and the field(s).

		Year Obtained	Field
____	(a) Associate's	_____	_____
____	(b) Bachelor's	_____	_____
____	(c) Master's	_____	_____
____	(d) Professional (Ed.D., L.L.B., Engr.)	_____	_____
____	(e) Doctor's	_____	_____
____	(f) None		

40. How long have you been doing your present kind of work ? _____ months

41. How long have you been employed by the Savannah District, Corps of Engineers? _____ months

42. What is your present GS rating? _____

43. Please consider carefully each of the SUBJECT CATEGORY FIELDS AND GROUPS listed below and on the following pages. Place a check mark before each item on the list that represents an area of scientific, technical, or other subject matter of interest to you in connection with your work in the Savannah District.

SUBJECT CATEGORY FIELDS AND GROUPS

AERONAUTICS

___ Aeronautics
___ Aircraft
___ Aircraft Flight Instrumentation
___ Air Facilities

AGRICULTURE

___ Agricultural chemistry
___ Agricultural economics
___ Agricultural engineering
___ Agronomy and horticulture
___ Animal husbandry
___ Forestry

ASTRONOMY AND ASTROPHYSICS

___ Astronomy
___ Astrophysics
___ Celestial mechanics

ATMOSPHERIC SCIENCES

___ Atmospheric physics
___ Meteorology

BEHAVIORAL AND SOCIAL SCIENCES

___ Administration and management
___ Information sciences
___ Economics
___ History, law, and political science
___ Human factors engineering
___ Humanities
___ Linguistics
___ Personnel selection, training and evaluation
___ Psychology
___ Sociology

___ Biology
___ Bionics
___ Clinical medicine
___ Environmental biology
___ Escape, rescue, and survival
___ Food
___ Hygiene and Sanitation
___ Life support
___ Medical equipment and supplies
___ Microbiology
___ Medical equipment and maintenance (medical)
___ Pharmacology
___ Physiology
___ Protective equipment
___ Radiobiology
___ Stress physiology
___ Toxicology
___ Weapon effects

CHEMISTRY

___ Chemical engineering
___ Inorganic chemistry
___ Organic chemistry
___ Physical and general chemistry
___ Radio and radiation chemistry

EARTH SCIENCES AND OCEANOGRAPHY

___ Biological oceanography
___ Cartography
___ Cynamic oceanography
___ Geochemistry
___ Geodesy
___ Geography
___ Geology and mineralogy
___ Hydrology and limnology
___ Mining engineering
___ Physical oceanography

___ Seismology
___ Snow, ice and permafrost
___ Soil mechanics
___ Geomagnetism

ELECTRONICS AND ELECTRICAL ENGINEERING

___ Components
___ Computers
___ Electronic and electrical engineering
___ Information theory
___ Subsystems
___ Telemetry

NONPROPULSIVE ENERGY CONVERSION

___ Conversion techniques
___ Power sources
___ Energy storage

MATERIALS

___ Adhesives and seals
___ Ceramics, refractories, and glasses
___ Coatings, colorants, and finishes
___ Composite materials
___ Fibers and textiles
___ Metals
___ Miscellaneous materials
___ Oils, lubricants, and hydraulic fluids
___ Plastics
___ Rubbers
___ Solvents, cleaners and abrasives
___ Wood and paper products
___ Corrosion and degradation

MATHEMATICAL SCIENCES

___ Mathematics and statistics
___ Operations research

MECHANICAL, INDUSTRIAL, CIVIL, AND MARINE ENGINEERING

___ Air conditioning, heating, lighting and ventilating
___ Civil engineering
___ Construction equipment, materials and supplies
___ Containers and packaging
___ Couplings, fasteners, and joints
___ Ground transportation equipment
___ Hydraulic and pneumatic equipment
___ Industrial processes
___ Machinery, tools, and industrial equipment
___ Marine engineering
___ Pumps, filters, pipes, tubing, and valves
___ Safety engineering
___ Structural engineering

METHODS AND EQUIPMENT

___ Cost effectiveness
___ Laboratories, test facilities, and test equipment
___ Recording devices
___ Reliability
___ Reprography
___ Research
___ General concepts in methods and equipment
___ Geometric forms

MILITARY SCIENCES

___ Antisubmarine warfare
___ Chemical, biological, and radiological operations
___ Intelligence
___ Nuclear warfare
___ Operations, strategy, and tactics
___ Logistics

MISSILE TECHNOLOGY

___ Missile launching and ground support
___ Missile trajectories
___ Missile warheads and fuzes
___ Missiles

NAVIGATION, COMMUNICATIONS, DETECTION, AND COUNTERMEASURES

___ Acoustic detection
___ Communications
___ Direction finding
___ Electromagnetic and acoustic countermeasures
___ Infrared and ultraviolet detection
___ Magnetic detection
___ Navigation and guidance
___ Radar detection
___ Seismic detection
___ Miscellaneous detection

NUCLEAR SCIENCE AND TECHNOLOGY

___ Isotopes
___ Nuclear explosions
___ Nuclear instrumentation
___ Radiation shielding and protection
___ Radioactive wastes and fission products
___ Reactor technology
___ Reactor materials
___ Reactor physics

ORDNANCE

___ Ammunition, explosives and pyrotechnics
___ Bombs
___ Combat vehicles
___ Explosions, ballistics, and armor
___ Fire control and bombing systems
___ Guns
___ Rockets
___ Underwater ordnance

PHYSICS

___ Acoustics
___ Crystallography
___ Electricity and magnetism
___ Fluid mechanics
___ Masers and lasers
___ Optics
___ Particle accelerators
___ Particle physics and nuclear reactions
___ Plasma physics
___ Quantum theory and relativity
___ Mechanics
___ Solid state physics
___ Thermodynamics
___ Wave propagation

PROPULSION, ENGINES, AND FUELS

___ Combustion and ignition
___ Electric propulsion
___ Fuels
___ Jet and gas turbine engines
___ Nuclear propulsion
___ Reciprocating engines
___ Rocket engines
___ Rocket propellants
___ Engine components
___ General engine concepts
___ General propulsion concepts
___ Spacecraft
___ Spacecraft trajectories and reentry
___ Spacecraft launch vehicles and ground support

PLEASE DO NOT WRITE IN THIS SPACE

Indiv. Survey No. _____

Date Questionnaire Distributed: _____

Date Questionnaire Returned: _____

Questionnaire Processed by: _____

March 24, 1969

LIBRARY USER NEEDS SURVEY

Savannah District, Corps of Engineers

Savannah, Georgia

(Contract No. DACW21-69-C-0013)

BROAD PROFILE QUESTIONNAIRE

INSTRUCTIONS TO RESPONDENT

Please complete this questionnaire and return it within 3 days to:

DISTRICT LIBRARY

ATTN: LIBRARY USER SURVEY PROJECT

A. Your Name: _____
Last First Middle Initial

B. Your Job Title: _____

C. Your Organizational Division: _____

_____

D. Your Specific Organizational Unit: _____

_____

Please consider carefully each of the SUBJECT CATEGORIES listed below and on the following pages. Place a check mark before each category that represents an area of scientific and technical subject matter of interest to you in connection with your work.

SUBJECT CATEGORY FIELDS AND GROUPS

Aeronautics

____ Aeronautics
____ Aircraft
____ Aircraft Flight Instrumentation
____ Air Facilities

Agriculture

____ Agricultural chemistry
____ Agricultural economics
____ Agricultural engineering
____ Agronomy and horticulture
____ Animal husbandry
____ Forestry

Astronomy and astrophysics

____ Astronomy
____ Astrophysics
____ Celestial mechanics

Atmospheric sciences

____ Atmospheric physics
____ Meteorology

Behavioral and social sciences

____ Administration and management
____ Information sciences
____ Economics
____ History, law, and political science
____ Human factors engineering
____ Humanities
____ Linguistics
____ Personnel selection, training, and evaluation
____ Psychology
____ Sociology

Biological and medical sciences

____ Biochemistry
____ Bioengineering
____ Biology
____ Bionics
____ Clinical medicine
____ Environmental biology
____ Escape, rescue, and survival
____ Food
____ Hygiene and Sanitation
____ Life support
____ Medical equipment and supplies
____ Microbiology
____ Personnel selection and maintenance (medical)
____ Pharmacology
____ Physiology
____ Protective equipment
____ Radiobiology
____ Stress physiology
____ Toxicology
____ Weapon effects

Chemistry

____ Chemical engineering
____ Inorganic chemistry
____ Organic chemistry
____ Physical and general chemistry
____ Radio and radiation chemistry

Earth sciences and oceanography

____ Biological oceanography
____ Cartography
____ Dynamic oceanography
____ Geochemistry
____ Geodesy
____ Geography
____ Geology and mineralogy
____ Hydrology and limnology
____ Mining engineering
____ Physical oceanography
____ Seismology
____ Snow, ice and permafrost
____ Soil mechanics
____ Geomagnetism

Electronics and electrical engineering

___ Components
___ Computers
___ ELectronic and electrical engineering
___ Information theory
___ Subsystems
___ Telemetry

Nonpropulsive energy conversion

___ Conversion techniques
___ Power sources
___ Energy storage

Materials

___ Adhesives and seals
___ Ceramics, refractories, and glasses
___ Coatings, colorants, and finishes
___ Composite materials
___ Fibers and textiles
___ Metals
___ Miscellaneous materials
___ Oils, lubricants, and hydraulic fluids
___ Plastics
___ Rubbers
___ Solvents, cleaners, and abrasives
___ Wood and paper products
___ Corrosion and degradation

Mathematical sciences

___ Mathematics and statistics
___ Operations research

Mechanical, industrial, civil, and marine engineering

___ Air conditioning, heating, lighting, and ventilating
___ Civil engineering
___ Construction equipment, materials, and supplies
___ Containers and packaging
___ Couplings, fasteners, and joints
___ Ground transportation equipment
___ Industrial processes
___ Machinery, tools, and industrial equipment
___ Hydraulic and pneumatic equipment
___ Marine engineering
___ Pumps, filters, pipes, tubing, and valves
___ Safety engineering
___ Structural engineering

Methods and equipment

___ Cost effectiveness
___ Laboratories, test facilities, and test equipment
___ Recording devices
___ Reliability
___ Reprography
___ Research
___ General concepts in methods and equipment
___ Geometric forms

Military sciences

___ Antisubmarine warfare
___ Chemical, biological, and radiological operations
___ Defense
___ Intelligence
___ Logistics
___ Nuclear warfare
___ Operations, strategy, and tactics

Missile technology

___ Missile launching and ground support
___ Missile trajectories
___ Missile warheads and fuzes
___ Missiles

Navigation, communications, detection, and countermeasures

___ Acoustic detection
___ Communications
___ Direction finding
___ Electromagnetic and acoustic countermeasures
___ Infrared and ultraviolet detection
___ Magnetic detection
___ Navigation and guidance
___ Optical detection
___ Radar detection
___ Seismic detection
___ Miscellaneous detection

Nuclear science and technology

___ Isotopes
___ Nuclear explosions
___ Nuclear instrumentation
___ Radiation shielding and protection
___ Radioactive wastes and fission products
___ Radioactivity
___ Reactor technology

____ Reactor materials
____ Reactor physics

Ordnance

____ Ammunition, explosives, and pyrotechnics
____ Bombs
____ Combat vehicles
____ Explosions, ballistics, and armor
____ Fire control and bombing systems
____ Guns
____ Rockets
____ Underwater ordnance

Physics

____ Acoustics
____ Crystallography
____ Electricity and magnetism
____ Fluid mechanics
____ Masers and lasers
____ Optics
____ Particle accelerators
____ Particle physics and nuclear reactions
____ Plasma physics
____ Quantum theory and relativity
____ Mechanics
____ Solid state physics
____ Thermodynamics
____ Wave propagation

Propulsion, engines, and fuels

____ Combustion and ignition
____ Electric propulsion
____ Fuels
____ Jet and gas turbine engines
____ Nuclear propulsion
____ Reciprocating engines
____ Rocket engines
____ Rocket propellants
____ Engine components
____ General engine concepts
____ General propulsion concepts
____ Spacecraft
____ Spacecraft trajectories and reentry
____ Spacecraft launch vehicles and ground support

PLEASE DO NOT WRITE IN THIS SPACE

Indiv. Survey No. _____

Date Questionnaire Distributed: _____

Date Questionnaire Returned: _____

Questionnaire Processed by: _____

March 29, 1969

LIBRARY USER NEEDS SURVEY

Savannah District, Corps of Engineers

Savannah, Georgia

(Contract No. DACW21-69-C-0013)

DETAILED PROFILE QUESTIONNAIRE

INSTRUCTIONS TO RESPONDENT

1. The purpose of this Detailed Profile Questionnaire is to obtain more specific information from you with regard to your requirements for scientific and technical subject matter. The information you furnish will be used to construct a profile of your subject interests, as described in District Circular No. 70-1-4, 25 February 1969.

2. This Detailed Profile Questionnaire is the final questionnaire for the Library User Needs Survey. It has been specially assembled for your use, based on the broad subject categories which are pertinent to your work, as you indicated previously during your personal interview or as you indicated on your mail questionnaire, if you were not interviewed.

3. In order to minimize demands on your time, only two questions are asked in this Questionnaire; please note that the bulk of the Questionnaire consists of detailed subject heading lists for your review. Your continued cooperation in this survey is greatly appreciated.

4. Completed Questionnaire should be returned to the District Library, ATTN: LIBRARY USER NEEDS SURVEY.

5. Please return your completed questionnaire not later than:

6. Questions regarding procedures may be directed to Walter Schaaf, ADPC.

Your Name: _____
Last First Middle Initial

Your Civil Service Job Title: _____

Your Specific Organizational Unit: _____

1. What are the most important scientific and technical or other professional journals, including abstracting and indexing publications, that you see regularly in connection with your work? Please list these by title below.

2. When you read or look through publications such as those listed in answer to Question 1, what scientific and technical phrases or single words are most likely to capture your attention and lead you to read an item in detail either because it deals with your immediate work or because it deals with your general scientific and technical interest? Please list these phrases or words below.

3. On the pages attached hereto are listed detailed subject headings, some of which will be of interest to you. Please review the headings carefully and place a check mark before each heading that represents an area of scientific, technical or other subject matter of interest to you in connection with your work in the Savannah District.

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 889
SAVANNAH, GEORGIA 31402

DC 70-1-4

SASOL

DISTRICT CIRCULAR
NO. 70-1-4

25 February 1969

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RESEARCH AND DEVELOPMENT
Library User Needs Survey

1. Purpose. To provide information concerning the conduct of the library user needs survey during Phase II of the Model Technical Library Project now in progress as announced in DC 70-1-3, 13 January 1969.

2. Scope. To set forth the concrete aims to be achieved by the survey of users, describe the survey approach and methodology which will be utilized, including the means whereby specific employees of the District will be selected and surveyed, and to outline the schedule for the survey.

3. Applicability. This circular is applicable to all District employees, particularly those who are active or potential users of the library's resources and services and may expect to be contacted as participants in the survey.

4. Background.

a. Increasingly during the past five to ten years, surveys and studies of information users, their methods and patterns of acquiring and using different kinds of information for particular purposes, their use of diverse kinds of information sources and media, the problems they encounter in acquiring and using information, and similar topics of investigation and study have been recognized as valuable means for pinpointing inadequacies in existing information services and systems for the dissemination and exchange of information and for determining specific improvements to be made. Such a survey and study carried out among active and potential library users in the Savannah District will produce findings that will be used advantageously in the development of the District's Model Technical Library.

b. Herner and Company of Washington, D.C., has been retained by the District to design and conduct this survey. The major aims are threefold:

(1) To assess present use and needs for information in the District, analyze the informational problems that prevail, and relate these findings to specific library programs and services which can be incorporated into the Model Technical Library's user-oriented operations. Profiles of the subject-matter interests of individual and of group users will also be prepared.

(2) To develop methods which organizations similar to the Savannah District can use to determine the specific informational needs of their employees and develop and maintain individual and group-user profiles. This will include the development and testing of appropriate questionnaires which can be used for these purposes.

(3) To compare the informational practices, needs, problems, and other characteristics of users of scientific and technical information in Savannah District with those of other information users in the DOD RDT&E community at large.

5. Survey Approach and Methodology.

a. The general approach which Herner and Company will employ for the user survey will entail personal in-depth interviews with a large number of District scientists and engineers (approximately 137). The specific individuals to be interviewed will be chosen by Herner and Company completely through the use of accepted random selection techniques in order to insure that the individuals interviewed comprise a representative cross-section of the scientific and engineering fields. The employees interviewed will also be requested to fill out brief questionnaires regarding their individual interests in scientific and technical subject matter which will provide bases for developing individual and group-user profiles.

b. Similarly, Herner and Company will interview and obtain profiling information of about 40 additional employees who are in professions other than scientific and engineering.

c. An abbreviated two-part questionnaire will be distributed to all other active and potential users of scientific and technical information in the District. The first part of this questionnaire will contain questions regarding the personal informational needs and problems of the individual; the second part of the questionnaire will cover the individual's subject-matter interests and will be used in the preparation of interest profiles.

d. The questions asked during the interviews and on the questionnaires are intended purely for the purpose of fact-finding or, in some cases, for obtaining opinions. None of the questions will be used to evaluate the individual respondent's knowledge and training, experience, or job performance. All information obtained will be held in strictest confidence and will never be associated with the individual providing the information. Excepted from this are the questions relating to the personal subject-matter interests of respondents where the information given will be used in developing interest profiles.

6. Schedule for the User Survey.

a. At the present time, Herner and Company is developing and pretesting the survey interview guides and questionnaires. Personal interviews are expected to begin on 17 or 24 March 1969, and continue for three or four weeks thereafter. The schedule for conducting interviews with the individuals selected will be established in advance. While the interviews are in progress,

the abbreviated two-part questionnaire will be distributed to individuals not participating in the personal interviews and are to be completed and returned by approximately mid-April. Detailed instructions will be included with the questionnaires.

FOR THE DISTRICT ENGINEER:

Larry F. Smalley

LARRY F. SMALLEY
Major, CE
Deputy District Engineer

DISTRIBUTION B